



PRINCEVILLE REMEDIAL ACTION PLAN

Princeville Utilities Company, Inc.
5-3541 Kuhio Highway
Princeville
Kauai, Hawaii 96722

May 2013

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Prepared for:

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Princeville
Kauai, Hawaii 96722

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ACRONYMS AND ABBREVIATIONS

µg/L	microgram per liter
µm	micrometer
AECOM	AECOM Technical Services, Inc.
Calscience	Calscience Environmental Laboratories, Inc.
CR	completion report
DOH	Department of Health
DU	decision unit
ELAP	Environmental Laboratory Accreditation Program
EPA	Environmental Protection Agency, United States
EPD	entry point to distribution
GAC	granular activated carbon
gpm	gallon per minute
HEER	Hazard Evaluation and Emergency Response
MCL	maximum contaminant level
mg/kg	milligram per kilogram
mil	one thousandth (10^{-3}) of an inch (0.0254 millimeter)
mm	millimeter
PCB	polychlorinated biphenyl
PUCI	Princeville Utilities Company, Inc.
QA/QC	Quality Assurance/Quality Control
RAP	Remedial Action Plan
SDWB	Safe Drinking Water Branch
TNWRE	Tom Nance Water Resource Engineering
TSCA	Toxic Substances Control Act

1.0 INTRODUCTION

During routine water quality testing, polychlorinated biphenyls (PCBs) were detected in a 1.5 million gallon drinking water supply tank (alternatively referred to as Reservoir 1 or Tank 411) that provides water to Princeville on the island of Kauai. The concrete tank, owned by Princeville Utilities Company, Inc. (PUCI), was constructed in the early 1970s, is 100 feet in diameter and 30 feet tall, and is supplied by two wells, Well 1 and Well 2 (Figure 1). During operation, the normal water level in the tank is maintained between approximately 15 and 28 feet high.

Each of the wells has its own dedicated line shaft turbine pump (above ground motor driving a downhole pump by a connecting shaft) that can be powered by grid-supplied or emergency back-up power sources. The pump for Well #1 is oil lubricated and the pump for Well #2 is water lubricated. No detailed as-built drawings or other post-construction information were available to determine construction materials, including whether or not a sealant layer was applied to the inside of the tank, nor whether the peeling caulking observed on joints outside of the tank are also present inside (although they are presumed to be). Pumps in both wells have been driven by motors located at the surface throughout the operational history. Because there is no backup or alternate water supply system for the community of Princeville, the tank remains in use. The interior of the tank cannot be fully assessed or remediated until a backup system is in place and the tank is drained.

PUCI has contracted with another consultant, Tom Nance Water Resource Engineering (TNWRE), to design a water supply bypass system in order to isolate the tank for remediation while continuing to provide Princeville with drinking water. AECOM Technical Services, Inc. (AECOM) has been requested to formulate an investigation and remedial action plan (RAP), to assist in remedial design and related activities, and to assist PUCI in securing a contractor to perform the remediation and related work. The water supply bypass system will allow for Reservoir 1 to be emptied and remediated. However, the bypass system is not large enough to meet peak water demands placed on the system and it is imperative that remedial actions be performed in a timely fashion.

1.1 BACKGROUND AND PREVIOUS INVESTIGATIONS BY OTHERS

In September 2012, during routine laboratory analysis of drinking water samples taken from the Princeville water supply system, the State of Hawaii Department of Health (DOH) Safe Drinking Water Branch (SDWB) noted that “something” was in the water samples analyzed at their lab. However, no detectable level of PCBs in the drinking water were reported. Further investigation of the water supply system revealed a sheen on the top of the water in Reservoir 1 and foreign material along the inside tank wall above the water line. In response to these observations, PUCI fashioned and operated a skimmer to remove the sheen from the top of the water. Well 1, which is oil lubricated, was subsequently turned off.

The skimmer system originally discharged to an oil absorbent pad and then to the ground surface. This discharge has been terminated, pending mobilization of granular activated carbon (GAC) units to the site to treat the skimmer effluent. Investigation of this potential release of PCBs will be proposed in a forthcoming addendum to this RAP.

Since the initial observations of a sheen within Reservoir 1, many samples of water and other materials have been collected by the DOH and analyzed at the SDWB laboratory, the University of Hawaii, or Alloway laboratories. PUCI has also collected several samples which were analyzed at Calscience Environmental Laboratories, Inc. (Calscience). Of these labs, only Calscience and Alloway provide detailed Quality Assurance/Quality Control (QA/QC) data with their reported results and are Environmental Laboratory Accreditation Program (ELAP) certified. Drinking water analyses were performed using United States Environmental Protection Agency (EPA) Method 508A where individual PCB congeners are transformed into decachlorobiphenyl yielding a Total PCB result reported as decachlorobiphenyl. PCBs in soils and other solid samples were analyzed by EPA SW-846 Method 8082A, and samples are reported as individual Aroclors. Total PCB results for samples

analyzed by Method 8082A are generated by summing the concentrations of each of the Aroclors detected.

Sample results from initial sampling are summarized in Table 1 (water samples), Table 2 (sheen and lubricant samples), Table 3 (solid samples), and Table 4 (wipe samples), below. Appendix A contains the detailed laboratory reports. Generally, PCBs (Aroclors 1254 and 1260) have been detected in the sheen collected from the top of the water in Reservoir 1, in the material scraped from the interior tank walls of Reservoir 1, and in a caulk sample collected from the exterior of the tank. Because the drinking water samples were analyzed using EPA Method 508A and reported as decachlorobiphenyl the source of the PCB impacts cannot be determined from the drinking water analyses. However, because the sheen and materials scraped from the walls of the interior of the tank had the same PCB Aroclors as the external caulk, building materials manufactured with PCBs are the suspected source of PCBs. However, this cannot be determined definitively until samples are collected from the tank interior, after the tank is taken offline and drained.

1.1.1 Drinking Water Samples

Of the drinking water samples (see Table 1), only one sample collected from a point of use in Princeville was reported to contain PCBs above the drinking water maximum contaminant level (MCL) of 0.5 microgram per liter ($\mu\text{g/L}$), which is the State of Hawaii drinking water standard and the unrestricted use decontamination standard for PCBs in water under Toxic Substances Control Act (TSCA) (§761.79(b)(1)(iii)). This sample was collected from the St. Regis Pool Deck on February 27, 2013, and PCBs were detected at a concentration of 9.3 $\mu\text{g/L}$. However, PCBs have not been detected in any of the other samples collected at this location. In addition, it is suspected that that sample may have been compromised or cross-contaminated because: 1) it is the only time PCBs have been detected in that area which is at the lowest point (i.e., the end) of the supply system; 2) the sample was collected by PUCI staff who are not trained environmental scientists; 3) several sample containers in the cooler broke during that shipment; 4) it was reported at a significantly higher concentration than in the sheen sample collected the same day from Reservoir 1; and 5) no other samples have contained PCBs in excess of the MCL in the water supply system. There have been only two other detections of PCBs at a point of use anywhere in the water supply system downstream of Reservoir 1, both at concentrations below the MCL: Makai Tennis Shop on March 13, 2013 (0.26 $\mu\text{g/L}$); and at the entry point to distribution (EPD) at the Ranch House on March 20, 2013 (0.12 $\mu\text{g/L}$). Thus, of the 65 total samples collected from within the drinking water distribution system to date, PCBs have only been detected in 3 samples, and only once above the MCL. Drinking water continues to be sampled on a regular basis, and PCBs have not been detected at any concentration since March.

Several water samples have been collected from the supply and discharge points of the tank and also within Reservoir 1. On the supply side to the tank, three samples of water collected at the supply wells had detectable concentrations of PCBs: Well #1 Pre Chlorination on March 20, 2013 (0.34 $\mu\text{g/L}$); Well #2 Pre Chlorination on October 23, 2012 (0.93 $\mu\text{g/L}$); and Well #2 Post Chlorination on March 13, 2013 (1.7 $\mu\text{g/L}$). PCBs were not detected in any of the other 19 samples collected at these locations.

A total of 16 water samples have been collected from sample points and taps located near the tank. PCBs were not detected in any of these samples.

Three samples were collected from varying depths within the tank on April 16, 2013, samples PV11, PV12, and PV13 (Table 7). PCB concentrations were reported as non-detect, 0.58 $\mu\text{g/L}$, and 0.55 $\mu\text{g/L}$, respectively. Variable concentrations of PCBs with depth within the water stored within the tank, and inconsistent and sporadic detections of PCBs in the water system indicates that PCBs may not be dissolved in the water, but present on colloidal particles or other solids that may settle within the water, and which may have an affinity for the sheen in the tank.

Also of interest are the PCB results from two of the the split drinking water samples taken on March 20, 2013 by PUCI and SDWB. Of the split samples collected from Well #1 Pre Chlorination, one of the analyses reported PCBs while the other did not. Similarly, of the split samples from the EPD at the Ranch House on the same date, one of the analyses reported PCBs while the other did not. These varying results are not explained by the use of different analytical laboratories reporting the data. Thus, it is possible that PCBs detected in the water supply system may be attributable to stray particles or colloids, rather than dissolved phase PCBs (i.e., one sample of otherwise similar water may have contained a particle, while the other may not have).

1.1.2 Sheen and Lubricant Samples

Samples of the skim which consisted of the oil sheen and water from Reservoir 1 were submitted for analysis of total PCBs by EPA Method 508A (see Table 2). PCBs were detected in all 7 samples collected of this material between October 23, 2012 and March 13, 2013, at concentrations reported to range from 0.99 µg/L (below the reporting level) to 39 µg/L. From these results it is apparent that the PCBs originated from a source material either within the tank itself or conceivably upstream from the tank. As previously discussed, a skimmer system has been established to remove this PCB impacted sheen material from the drinking water supply.

1.1.3 Solid Samples Collected by DOH and PUCI

Two solid samples collected by scraping material from the interior wall of the tank were collected by PUCI on February 5, 2013 and submitted for analysis by EPA Method 8082. Total PCB concentrations in the samples were 1,580 milligrams per kilogram (mg/kg), and 1,630 mg/kg. These results indicate that there may be a coating on the interior that contains PCBs, or that the sheen may be smearing on the concrete, as the water level rises and falls, and accumulating PCBs. Inspection of the entire interior of the tank is needed to further evaluate the source of these PCBs.

On March 6, 2013, DOH Office of Hazard Evaluation and Emergency Response (HEER) collected a sample of the exterior caulk on the tank, scrapings of a “gritty playdoh” like material from the interior, and a discrete soil sample from an excavation pit outside the tank. Analytical laboratory reports or other information regarding this sampling were not made available. However, PCBs were reportedly detected in the exterior caulk at a concentration of 7,500 mg/kg. As it is known that PCBs were used in the manufacture of caulk at the time of the construction of Reservoir 1, this material is classified as a PCB Bulk Product Waste. The gritty playdoh material had PCBs reportedly at a concentration of 200 mg/kg. The exact nature and source of this material is not known and its classification will required additional investigation of the interior of the tank once the water is drained. DOH also collected a discrete sample of soil from near the tank and PCBs were detected at a concentration of 5 mg/kg. The likely source for these impacts to soil is probably from flaking or deteriorating caulk as these types of impacts are common when PCB Bulk Product Waste caulks are identified on the exterior of a structure. Further investigation of soil exterior to the tank is planned, as discussed in Section 2.6.

On March 30, 2013, DOH collected multi-incremental soil samples from surface soil in 6 decision units near Reservoir 1 (Figure 3), as well as surface soil decision units near each of Wells 1 and 2. Results were consistent with all other analyses of caulking and sheen, showing Aroclors 1254 and 1260. Concentrations of PCBs in the decision units near the tank ranged from non-detect to 18.0 mg/kg. The soil samples from decision units near the wells did not contain detectable levels of PCBs. Solid samples of caulking and scrapings from inside the tank were also consistent with other similar sample results (Table 3). Detailed laboratory QC reports were not provided.

1.1.4 Wipe Samples Collected by DOH

DOH collected a total of 8 wipe samples on April 16, 2013, four each from various locations within the Well #1 and Well #2 pump stations, including the motor housings (Figure 4 and Figure 5 show approximate sampling locations). Detailed analytical laboratory reports for these samples were not provided, but the following results were reported by DOH (Appendix A).

For Well #1, all samples were non-detect for PCBs (reporting limits unknown) but the DOH report indicated that oil profiles consistent with fresh or degraded oil were identified. For Well #2, three of the samples were non-detect for PCBs (reporting limits unknown). The wipe sample collected from the drive shaft for the Well #2 pump was reported to have traces of pentachlorobiphenyl, but not at reportable levels. All of the wipe samples also indicated the presence of degraded oil or diesel and also fresh oil. Well #2 is currently water lubricated and reportedly has always used water lubricant, so the source for the oil may require further investigation.

Table 1: Analysis of Water Samples Collected by DOH and PUCI

Sample	Sampling Date	Sampling Time	Parameter	Units	Results					
					Calscience ^a		DOH Lab ^b		Alloway ^c	
					Result	RL	Result	RL	Result	RL
Well #2 Pre-Chlor.	10/23/2012	13:48	Total PCBs	µg/L	ND	0.25				
	3/13/2013	10:00	Total PCBs	µg/L	0.93	0.25				
	3/20/2013	8:20	Total PCBs	µg/L	ND	0.25				
	3/20/2013	8:30	Total PCBs	µg/L					ND ^d	0.1
	3/20/2013	8:30	Total PCBs	µg/L	ND ^d	0.25				
	3/20/2013	n/a	Total PCBs	µg/L			ND ^d			
Well #2 Post-Chlor.	10/23/2012	13:45	Total PCBs	µg/L	ND	0.25				
	3/13/2013	9:50	Total PCBs	µg/L	1.7	0.25				
	3/20/2013	8:30	Total PCBs	µg/L					ND ^d	0.1
	3/20/2013	8:30	Total PCBs	µg/L	ND ^d	0.25				
	3/20/2013	n/a	Total PCBs	µg/L			ND ^d			
	4/2/2013	9:55	Total PCBs	µg/L	ND	0.25				
	4/9/2013	11:20	Total PCBs	µg/L					ND ^d	0.1
Well #1 Pre Chlor.	5/1/2013	8:28	Total PCBs	µg/L	ND	0.25				
	10/24/2012	8:00	Total PCBs	µg/L	ND	0.25				
	3/20/2013	10:30	Total PCBs	µg/L					ND ^d	0.1
	3/20/2013	10:30	Total PCBs	µg/L	0.34 ^d	0.25				
Well #1 Post-Chlor.	3/20/2013	n/a	Total PCBs	µg/L			ND ^d			
	10/24/2012	8:05	Total PCBs	µg/L	ND	0.25				
	4/9/2013	9:45	Total PCBs	µg/L					ND	0.1
	4/16/2013	11:00	Total PCBs	µg/L	ND	0.25				
Makai Club Cottage	4/25/2013	8:00	Total PCBs	µg/L	ND	0.25				
	11/14/2012	9:50	Total PCBs	µg/L			ND	0.5		
	11/19/2012	9:55	Total PCBs	µg/L			ND	0.5		
	11/20/2012	10:00	Total PCBs	µg/L	ND	0.25				
	11/27/2012	9:54	Total PCBs	µg/L			ND	0.5		
	12/4/2012	10:15	Total PCBs	µg/L			ND	0.5		
	1/22/2013	10:10	Total PCBs	µg/L			ND	0.5		
	2/5/2013	8:37	Total PCBs	µg/L			ND	0.5		
Makai Tennis Shop	3/4/2013	n/a	Total PCBs	µg/L			ND			
	3/5/2013	7:40	Total PCBs	µg/L	ND	0.25				
	3/13/2013	10:50	Total PCBs	µg/L	0.26	0.25				
	3/20/2013	9:40	Total PCBs	µg/L					ND ^d	0.1
	3/20/2013	9:45	Total PCBs	µg/L	ND ^d	0.25				
	3/20/2013	n/a	Total PCBs	µg/L			ND ^d	0.5		
	3/26/2013	8:45	Total PCBs	µg/L	ND	0.25				
	4/2/2013	9:15	Total PCBs	µg/L	ND	0.25				
	4/9/2013	10:50	Total PCBs	µg/L					ND	0.1
	4/16/2013	8:50	Total PCBs	µg/L	ND	0.25				
	4/25/2013	7:40	Total PCBs	µg/L	ND	0.25				
St. Regis Pool Deck	5/1/2013	7:36	Total PCBs	µg/L	ND	0.25				
	11/14/2012	10:15	Total PCBs	µg/L			ND	0.5		
	11/19/2012	10:15	Total PCBs	µg/L			ND	0.5		
	11/20/2012	9:42	Total PCBs	µg/L	ND	0.25				
	11/27/2012	10:10	Total PCBs	µg/L			ND	0.5		
	12/4/2012	11:15	Total PCBs	µg/L			ND	0.5		
	12/6/2012	10:55	Total PCBs	µg/L	ND	0.25				
	1/22/2013	10:45	Total PCBs	µg/L			ND	0.5		
	2/5/2013	9:00	Total PCBs	µg/L			ND	0.5		
	2/27/2013	7:20	Total PCBs	µg/L	9.3	2.5				
	3/4/2013	*	Total PCBs	µg/L			ND			
	3/5/2013	7:12	Total PCBs	µg/L	ND	0.25				
	3/13/2013	10:30	Total PCBs	µg/L	ND	0.25				
	3/20/2013	9:25	Total PCBs	µg/L					ND ^d	0.1
	3/20/2013	9:20	Total PCBs	µg/L	ND ^d	0.25				
	3/20/2013	*	Total PCBs	µg/L			ND ^d			
	3/26/2013	8:30	Total PCBs	µg/L	ND	0.25				
	4/9/2013	10:35	Total PCBs	µg/L					ND	0.1
	4/16/2013	8:35	Total PCBs	µg/L	ND	0.25				
	4/25/2013	7:20	Total PCBs	µg/L	ND	0.25				
	5/1/2013	7:10	Total PCBs	µg/L	ND	0.25				

Table 1: Analysis of Water Samples Collected by DOH and PUCI (cont'd)

Sample	Sampling Date	Sampling Time	Parameter	Units	Results					
					CalScience ^a		DOH Lab ^b		Alloway ^c	
					Result	RL	Result	RL	Result	RL
411 Sample Point #1	10/23/2012	13:32	Total PCBs	µg/L	ND	0.25				
411 Sample Point #2	10/24/2012	8:15	Total PCBs	µg/L	ND	0.25				
Tap at 411 tank	11/20/2012	10:39	Total PCBs	µg/L	ND	0.25				
	12/6/2012	11:16	Total PCBs	µg/L	ND	0.25				
	2/5/2013	14:00	Total PCBs	µg/L	ND	0.25				
	3/5/2013	8:20	Total PCBs	µg/L	ND	0.25				
Tap after 411 Reservoir	10/2/2012	8:15	Total PCBs	µg/L			ND ^e	0.5		
	11/14/2012	9:20	Total PCBs	µg/L			ND	0.5		
	11/19/2012	9:35	Total PCBs	µg/L			ND	0.5		
	11/27/2012	9:27	Total PCBs	µg/L			ND	0.5		
	12/4/2012	10:30	Total PCBs	µg/L			ND	0.5		
	12/6/2012	*	Total PCBs	µg/L			ND			
	1/22/2013	10:15	Total PCBs	µg/L			ND	0.5		
	2/5/2013	8:11	Total PCBs	µg/L			ND	0.5		
	2/14/2013	10:10	Total PCBs	µg/L			ND	0.5		
	3/4/2013	*	Total PCBs	µg/L			ND			
Ranch	3/13/2013	11:05	Total PCBs	µg/L	ND	0.5				
EPD at Ranch House	3/20/2013	10:00	Total PCBs	µg/L					0.12 ^d	0.1
	3/20/2013	10:05	Total PCBs	µg/L	ND ^d	0.25				
	3/20/2013	*	Total PCBs	µg/L			ND ^d			
	3/26/2013	9:00	Total PCBs	µg/L	ND	0.25				
	4/2/2013	9:40	Total PCBs	µg/L	ND	0.25				
	4/9/2013	11:10	Total PCBs	µg/L					ND	0.1
	4/16/2013	9:05	Total PCBs	µg/L	ND	0.25				
	4/25/2013	8:15	Total PCBs	µg/L	ND	1.25				
	5/1/2013	8:00	Total PCBs	µg/L	ND	0.25				

Bold Detection above laboratory reporting limit

Bold italics Concentration greater than EPA MCL for total PCBs (0.5 µg/L).
µg/L micrograms per liter

RL reporting limit

^a CalScience analyzed samples per EPA Method 508A (reporting limit 0.25 µg/L). Result is reported as total PCBs quantified as decachlorobiphenyl.

^b DOH laboratory analyzed samples per EPA Method 508, which quantified the concentration of seven Aroclors (reporting limits in parentheses): 1016 (0.26 µg/L), 1221 (0.19 µg/L), 1232 (0.23 µg/L), 1242 (0.26 µg/L), 1248 (0.30 µg/L), 1254 (0.33 µg/L), 1260 (0.36 µg/L). According to the DOH laboratory report, "any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A. The listed detection limits are the concentration equivalent of 0.5 µg/L decachlorobiphenyl."

^c Alloway analyzed samples per EPA Method 508A (reporting limit 0.10 µg/L). Result is reported as total PCBs quantified

^d Split sample.

^e Trace amounts of Aroclor 1254 were noted as "may be present" by the DOH. The DOH lab recommended sending a sample to a lab certified to quantitate the amount of PCBs as Decachlorobiphenyl by EPA method 508A.

* Sample time not available.

Table 2: Analysis of Sheen and Lubricant Samples Collected by DOH and PUCI

Sample	Sampling Date	Sampling Time	Parameter ^a	Units	Results	RL
Skim	10/23/2012	13:30	Total PCBs	µg/L	18	2.5
	11/20/2012	10:49	Total PCBs ^b	µg/L	0.99	1.0
	12/6/2012	11:20	Total PCBs	µg/L	1.4	0.25
	2/5/2013	14:00	Total PCBs	µg/L	39	2.5
	2/27/2013	8:23	Total PCBs	µg/L	4.4	0.25
	3/5/2013	8:00	Total PCBs	µg/L	8.7	2.5
	3/13/2013	11:20	Total PCBs	µg/L	3.7	2.5
Old Pre-Lube	11/20/2012	9:37	Total PCBs	µg/kg	ND	1,000
Current Pre-Lube	11/20/2012	10:31	Total PCBs	µg/kg	ND	1,000

Bold italics

Detected above laboratory reporting limit.

µg/kg

microgram per kilogram

RL

reporting limit

^a

Skim samples were analyzed by Calscience for total PCBs quantified as decachlorobiphenyl using EPA Method 508A (reporting limit 0.25 µg/L) unless otherwise noted. Pre-lube samples were analyzed by Calscience using Method 8082, which quantified the concentration of eight Aroclors (1016, 1221, 1232, 1242, 1248, 1254, 1260, and 1262); the reporting limit for each Aroclor was 1,000 µg/kg.

^b

Sample analyzed by Calscience using EPA Method 8082, which quantified the concentration of eight Aroclors: 1016, 1221, 1232, 1242, 1248, 1254, 1260, and 1262. The reporting limit for each Aroclor was

Table 3: Analysis of Solid Samples Collected by DOH and PUCI

Sample	Sampling Date	Sampling Time	Parameter	Units	Results	RL
Wall Scraping #A	2/5/2013	14:00	Aroclor-1016	mg/kg	ND	500
			Aroclor-1221	mg/kg	ND	500
			Aroclor-1232	mg/kg	ND	500
			Aroclor-1242	mg/kg	ND	500
			Aroclor-1248	mg/kg	ND	500
			Aroclor-1254	mg/kg	830	500
			Aroclor-1260	mg/kg	750	500
			Aroclor-1262	mg/kg	ND	500
			Total PCBs ^a	mg/kg	1,580	500
Wall Scraping #B	2/5/2013	14:00	Aroclor-1016	mg/kg	ND	500
			Aroclor-1221	mg/kg	ND	500
			Aroclor-1232	mg/kg	ND	500
			Aroclor-1242	mg/kg	ND	500
			Aroclor-1248	mg/kg	ND	500
			Aroclor-1254	mg/kg	840	500
			Aroclor-1260	mg/kg	790	500
			Aroclor-1262	mg/kg	ND	500
			Total PCBs ^a	mg/kg	1,630	500
Caulking on Outside of Tank	3/6/2013	n/a	Total PCBs ^b	mg/kg	7,500	
Wall Scrapings Inside Tank – “Gritty Playdoh”	3/6/2013	n/a	Total PCBs ^b	mg/kg	200	
Soil from Excavation Pit Outside Tank	3/6/2013	n/a	Total PCBs ^b	mg/kg	5	
DU 01	3/20/2013	13:00	Aroclor-1016	mg/kg	ND	0.025
			Aroclor-1221	mg/kg	ND	0.025
			Aroclor-1232	mg/kg	ND	0.025
			Aroclor-1242	mg/kg	ND	0.025
			Aroclor-1248	mg/kg	ND	0.025
			Aroclor-1254	mg/kg	ND	0.025
			Aroclor-1260	mg/kg	0.027	0.025
			Total PCBs ^c	mg/kg	0.027	0.025
DU 02	3/20/2013	13:00	Aroclor-1016	mg/kg	ND	2.5
			Aroclor-1221	mg/kg	ND	2.5
			Aroclor-1232	mg/kg	ND	2.5
			Aroclor-1242	mg/kg	ND	2.5
			Aroclor-1248	mg/kg	ND	2.5
			Aroclor-1254	mg/kg	6.0	2.5
			Aroclor-1260	mg/kg	12.0	2.5
			Total PCBs ^c	mg/kg	18.0	2.5
DU 03	3/20/2013	13:00	Aroclor-1016	mg/kg	ND	0.25
			Aroclor-1221	mg/kg	ND	0.25
			Aroclor-1232	mg/kg	ND	0.25
			Aroclor-1242	mg/kg	ND	0.25
			Aroclor-1248	mg/kg	ND	0.25
			Aroclor-1254	mg/kg	0.73	0.25
			Aroclor-1260	mg/kg	1.2	0.25
			Total PCBs ^c	mg/kg	1.93	0.25

Table 3: Analysis of Solid Samples Collected by DOH and PUCI (cont'd)

Sample	Sampling Date	Sampling Time	Parameter	Units	Results	RL
DU 04	3/20/2013	13:00	Aroclor-1016	mg/kg	ND	0.49
			Aroclor-1221	mg/kg	ND	0.49
			Aroclor-1232	mg/kg	ND	0.49
			Aroclor-1242	mg/kg	ND	0.49
			Aroclor-1248	mg/kg	ND	0.49
			Aroclor-1254	mg/kg	1.6	0.49
			Aroclor-1260	mg/kg	1.4	0.49
			Total PCBs ^c	mg/kg	3.0	0.49
DU 05	3/20/2013	13:00	Aroclor-1016	mg/kg	ND	0.025
			Aroclor-1221	mg/kg	ND	0.025
			Aroclor-1232	mg/kg	ND	0.025
			Aroclor-1242	mg/kg	ND	0.025
			Aroclor-1248	mg/kg	ND	0.025
			Aroclor-1254	mg/kg	0.031	0.025
			Aroclor-1260	mg/kg	0.029	0.025
			Total PCBs ^c	mg/kg	0.06	0.025
DU 06	3/20/2013	13:00	Total PCBs ^c	mg/kg	ND	0.025

Bold italics

Concentration greater than 1 mg/kg for total PCBs. TSCA (40 CFR

n/a

Sample time not available.

mg/kg

milligram per kilogram

RL

reporting limit

^a

Samples analyzed by Calscience using EPA Method 8082 (reporting

^b

Sample analyzed by DOH laboratory using in-house methods adapted

^c

Sample analyzed by TestAmerica using EPA Method 8082.

1.2 PRELIMINARY INVESTIGATIONS BY AECOM

1.2.1 Limited Initial Site Reconnaissance and Sampling

AECOM initially went to the site on March 6, 2013, accompanied by PUCI, SDWB, and HEER. The site reconnaissance and limited sampling event was documented in a memorandum dated March 13, 2013, and is summarized here.

At the time of the site reconnaissance, only Well 2 (which supplies water at approximately 1,300 gallons per minute [gpm]) was in use. The pump stations at each of the wells were observed to contain mechanical power, pumping and treatment equipment, and an exterior aboveground storage tank. A pad-mounted transfer with the sticker "No PCBs" was located approximately 50 feet from the structure containing Well 2. Well 2 is currently water lubricated.

Various mechanical fluids (reportedly lubricating oil, solvent, and petroleum product) were stored inside of the pump building for Well 1. Each of the fluids was being stored in quantities less than 20 gallons and no evidence of spills were observed on the concrete floor or surrounding the building. Logbooks located at each well indicated that lubricating fluid was applied to the pump equipment at a rate of one drop per 6 seconds. According to TNWRE, Well 1 is currently oil-lubricated, while Well 2 has only been lubricated by pumped water since its construction. Based on the design of the pump system at each well, TNWRE believed it possible that lubricating fluids could have historically come into direct contact with water that would then be directed toward Reservoir 1. Therefore, former lubricating fluids may conceivably have been a historical source of PCBs that could have accumulated in Reservoir 1, however, there is no way to verify or disprove that historical possibility at this point. Oil currently stored for use at Well 1 was recently confirmed to be "food grade" (i.e., sufficient for use in a drinking water system, and not containing PCBs); however, there is no way to determine whether lubricants used in the past may have contained PCBs.

Reservoir 1 is a large concrete aboveground water storage tank, approximately 30 feet tall. The cylindrical concrete structure appeared to be constructed of three horizontal layers. Upon closer inspection, the layers appeared to be internally locked together and sealed, at least externally, and presumably internally, with caulking. The exterior caulking was weathered and peeling, however, no water was observed to be leaking from the tank, nor was any significant staining potentially related to leaking water observed. Therefore, the caulking may also be present inside the tank, although this could not be confirmed using the one limited access port, which is on the top of the tank, and therefore will be investigated once the tank is offline and drained of water. The interior wall of the tank above the waterline was observed to have patches of dark gray to black coloration, and appeared to be bare concrete in some areas. Black surfacing material, possibly sealant, was visible towards the top of the sidewalls, above the assumed water scour line. A ladder constructed of white PVC piping was also stained a dark gray to black color in visible areas above the water level, which was approximately 8 feet below the top of the tank at the time of reconnaissance.

During the site reconnaissance, a homemade skimming device was observed removing a sheen from the top of the water. The skimmed water was being discharged to the ground after filtration through a petroleum absorbent bag. No sheen or odor were noted in the tank or in the ponded water discharged to the ground. The ultimate discharge point is not known.

Four samples were collected during the site reconnaissance and were analyzed for PCBs by Calscience: post-chlorination water sample at Well 2 (PV01) (Table 4), scrapings from the interior wall (PV02) and ladder (PV03) at Reservoir 1 (Table 5), and caulking on the exterior of Reservoir 1 (PV04) (Table 5). Detectable PCB concentrations were reported in each sample: PV01: 0.38 µg/L; PV02: 4,700 mg/kg, PV03: 5,100 mg/kg; and PV04: 12,700 mg/kg. The post-chlorination water sample from Well 2 did not exceed the State drinking water standard and EPA MCL of 0.5 µg/L. The exterior caulk is classified as a PCB Bulk Product Waste as the PCB concentrations are ≥50 mg/kg and the presumed source of PCBs in this material is from manufacture. The materials scraped from the interior wall and ladder are not yet classified. If the PCB impacts from the scrapings are from a

“smear zone” of the sheen layer they will be considered a PCB Remediation Waste. However, if the material is a sealant or other material used in the construction of the tank, then the scraped material will be classified as a PCB Bulk Product Waste. Both of these scenarios will be evaluated during inspection of the tank after it has been drained (Section 2.2.2). Detailed laboratory reports and QA/QC data for samples collected by AECOM are presented in Appendix B.

Because supply water samples in Princeville had been taken both of the previous days (March 4 by SDWB and March 5 by PUCI), and all samples were reported to be non-detect, no samples were taken from the water supply system downstream of Reservoir 1 on the day of the initial site reconnaissance.

Table 4: Analysis of Water Samples Collected by AECOM

Sample	Sampling Date	Sampling Time	Parameter	Units	Results	EPA MCL
PV01	3/6/2013	10:20	Total PCBs ^a	µg/L	0.38	0.5

Bold Detection above laboratory reporting limit

^a Total PCBs quantified as decachlorobiphenyl. Sample analyzed by EPA Method 508A.

Table 5: Analysis of Solid Samples Collected by AECOM

Sample	Sampling Date	Sampling Time	Parameter	Units	Results
PV02	3/6/2013	11:30	Aroclor-1016	mg/kg	< 500
			Aroclor-1221	mg/kg	< 500
			Aroclor-1232	mg/kg	< 500
			Aroclor-1242	mg/kg	< 500
			Aroclor-1248	mg/kg	< 500
			Aroclor-1254	mg/kg	2,600
			Aroclor-1260	mg/kg	2,100
			Aroclor-1262	mg/kg	< 500
			Total PCBs ^a	mg/kg	4,700
PV03	3/6/2013	12:40	Aroclor-1016	mg/kg	< 500
			Aroclor-1221	mg/kg	< 500
			Aroclor-1232	mg/kg	< 500
			Aroclor-1242	mg/kg	< 500
			Aroclor-1248	mg/kg	< 500
			Aroclor-1254	mg/kg	2,900
			Aroclor-1260	mg/kg	2,200
			Aroclor-1262	mg/kg	< 500
			Total PCBs ^a	mg/kg	5,100
PV04	3/6/2013	13:10	Aroclor-1016	mg/kg	< 500
			Aroclor-1221	mg/kg	< 500
			Aroclor-1232	mg/kg	< 500
			Aroclor-1242	mg/kg	< 500
			Aroclor-1248	mg/kg	< 500
			Aroclor-1254	mg/kg	6,200
			Aroclor-1260	mg/kg	6,500
			Aroclor-1262	mg/kg	< 500
			Total PCBs ^a	mg/kg	12,700

^a Total PCBs is the sum of positive Aroclor detections. All samples analyzed by EPA Method 8082.

Bold italics Detection above laboratory reporting limit

1.2.2 Phase 1 Limited Soil Sampling

On March 20, 2013, AECOM conducted a limited Phase 1 soil sampling investigation. The goal of the sampling event was to characterize the PCB content of soil that might be contacted or disturbed by workers during installation of the bypass system in the vicinity of Reservoir 1 in order to assess potential worker health exposure due to contact with the soil during bypass system installation.

The Phase 1 investigation implemented an incremental soil sampling approach for surface soils based on the DOH Technical Guidance Manual (DOH 2009), in accordance with the Phase 1 Sampling Plan and the Health and Safety Plan (AECOM 2013). The incremental sampling approach entailed collecting samples based on a statistically representative number of randomly located small equal volume increments of the targeted media from within specific areas, called decision units (DUs). Further random subsampling of the collected total mass of the field sample was conducted in the laboratory before analysis. Using the incremental sampling approach, the analytical result can be considered representative of the average concentration in the DU, and can serve as a basis for evaluating risk to human health due to exposure to the soil.

For the purpose of the Phase 1 investigation, five separate DUs associated with the proposed temporary bypass water tank installation were identified (Figure 2). The DUs were located in areas that may require ground disturbance or could result in worker exposure to surface soil during assembly of the of the water bypass system.

- DU 01 (sample PV07) comprised the previously excavated trench for underground piping connecting Reservoir 1 to the proposed temporary water tanks (three 20,000 gallon tanks).
- DU 02 (sample PV05) comprised the soil excavated from and stockpiled next to the previously excavated trench.
- DU 03 (sample PV10) comprised the surface soils in the area leading from the previously excavated trench (DU 01) to the proposed temporary water tanks.
- DU 04 (sample PV09) encompassed the footprint where the new temporary water tanks will be installed.
- DU 05 (sample PV08) encompassed the footprint of the proposed retention basin where overflow water from the proposed temporary water tanks will be stored.

Samples were collected in the field between the ground surface and 4 inches below ground surface using a battery operated portable hole saw with removable drill bits. The drill bits were disposed of after sampling each DU in order to avoid potential cross-contamination. Stainless steel trowels were used when increments could not be obtained using the drill. When gravel cover or vegetation was present at the surface it was removed and the sample was collected from beneath the gravel or vegetation layer.

As summarized in Table 6, no PCBs were detected in any of the samples. The full laboratory analytical report and QA/QC data is presented in Appendix B. Despite the non-detection of PCBs in the soil in the vicinity of the bypass system, AECOM recommended that the construction contractor conservatively observe appropriate health and safety requirements to protect against potential PCB exposure. It was recommended that all site workers observe the safety measures suggested by HEER and take measures to prevent generation of airborne dust or surface water runoff.

Table 6: Results of Phase 1 Soil Investigation Collected on March 20, 2013

Sample ID ^b	Decision Unit	Units	Results	
			Parameter ^a	Concentration
PV05	DU 02	µg/kg	Total PCBs	ND
PV07	DU 01	µg/kg	Total PCBs	ND
PV08	DU 05	µg/kg	Total PCBs	ND
PV09	DU 04	µg/kg	Total PCBs	ND
PV10	DU 03	µg/kg	Total PCBs	ND

µg/kg microgram per kilogram

ND nondetect

^a Total PCBs analyzed by EPA Method 8082. Sum of eight Aroclor concentrations: Aroclor-1016, -1221, -1232, -1242, -1248, -1254, -1260, and -1262. The laboratory reporting limit for each individual Aroclor was 50 µg/kg.

^b Sample PV06 was a duplicate sample that was not analyzed because no PCBs were detected in this soil sampling event.

1.3 CONCEPTUAL SITE MODEL

Numerous potential source materials have been identified and investigated. These source materials include:

- **Building Materials on the Tank** – Exterior caulks are known to contain PCBs at concentrations greater than 50 mg/kg and analytical data collected to date strongly indicate that similar materials are present on the interior of the tank. However, the presence of these materials cannot be confirmed until the tank has been emptied of its contents.
- **Historically and Currently Used Pump Lubricating Oils** – No information was found indicating that potentially PCB-containing oils were used historically to lubricate the pumps. However, the records are not considered to be complete enough to eliminate this as a potential historical source. It has been confirmed that the oil currently used for lubricating Well #1 does not contain PCBs.
- **PCB Capacitors in the Down-Well Pumps** – The pumps are driven by motors located and actuated at the surface. Thus, it is not considered likely that the pumps are equipped with capacitors as they would serve no function.

The Conceptual Site Model for the PCB impacts identified within tank and to exterior soil is as follows:

- The oily sheen on the water surface within the tank is known to be impacted with PCBs. The source of the oil is not known and the continued operation of the skimming system will be maintained until the source has been mitigated (once a GAC treatment system is mobilized to the site to treat its effluent). Because oil currently in use does not contain PCBs the source of the PCBs in the sheen is not considered to be lubricating oil. PCBs in building materials may partition into the oil sheen, which would explain the presence of PCBs in this phase. A sample of the sheen will be collected and analyzed by EPA Method 8082A to determine the Aroclors present and investigate further details such as a qualitative characterization of Aroclor mixtures (if any), evidence of weathering or degradation, and any anomalous peaks.
- PCBs are not consistently detected in the drinking water supply system and some split samples collected at the same time had PCBs detected in one split but not the other. In addition, sampling at different levels within the water column within the tank were not all impacted with PCBs which would be expected if the PCBs were truly in a dissolved phase. Thus, it is believed that the PCBs are sorbed to particulate or colloidal materials in the water. Building materials containing PCBs are a likely source for these solids.

1.4 PCB MATERIAL DEFINITIONS AND DISPOSAL REQUIREMENTS

PCB Bulk Product Wastes are wastes derived from manufactured products containing PCBs in a non-liquid state containing PCBs ≥ 50 mg/kg (40 CFR §761.3). PCB Bulk Product Wastes at Princeville may potentially include caulking, sealants, or other building materials. PCB Bulk Product Wastes are not authorized for use and must be removed and disposed of according to 40 CFR §761.62. PCB Bulk Product Wastes may be disposed of at a non-hazardous waste landfill, if it is permitted to accept PCBs at the relevant concentrations. However, no landfill in the State of Hawaii is permitted to accept PCB Bulk Product Wastes (11 HAR §58.1-15 [DOH 1994]).

PCB Remediation Waste contains PCBs as a result of a spill, release or unauthorized disposal, at concentrations ≥ 50 mg/kg (40 CFR §761.3). PCB Remediation Waste at Princeville may potentially include soil, sediments, and used GAC (upon completion of remediation). The disposal of PCB remediation waste is regulated under 40 CFR §761.61. PCB Remediation Waste will be containerized and disposed of at a Chemical Waste Landfill (40 CFR §761.75) located on the mainland.

Cleanup wastes include non-liquid cleaning materials and personal protective equipment generated during cleanup of PCB remediation waste. Cleanup wastes can be disposed of as municipal and solid waste (§761.61(a)(5)(v)).

Water, whether from inside Reservoir 1, or water used during cleanup or decontamination, will be treated with a GAC system until the PCB concentration is less than $0.5 \mu\text{g/L}$, at which point it is approved for unrestricted use (40 CFR §761.79). Treated water can be disposed of in the onsite infiltration basin, as long as there is no surface discharge from the site.

1.5 CERTIFICATION

Written certification, as required in 40 CFR §761.61(a)(3)(E), signed by the Owner of the property, PUCI, is attached in Appendix C. An additional certification signed by the party conducting the cleanup will be submitted after the contractor has been selected.

2.0 REMEDIAL ACTION PLAN

This RAP currently has six primary components:

- Installation of Water Supply Bypass System
- Investigation and Remediation of Reservoir 1
- Tank Exterior Remediation
- Source Investigation
- Post Remediation Water Supply Sampling
- Phase 2 Investigation

Additional supplemental activities that will be required include Waste Storage and Handling Equipment Decontamination. Based on the field observations and analytical results, additional response actions may be required.

2.1 INSTALLATION OF WATER SUPPLY BYPASS SYSTEM

Reservoir 1 must be isolated from the drinking water supply system in order to more fully investigate its contents and construction, to remediate PCB impacts to the tank, and to determine whether the water supply shows any PCBs impacts once it is isolated from the tank. A water supply bypass system has been designed by TNWRE, and other contractors have begun installing and testing the system. The remainder of this RAP cannot be implemented until the pumps and bypass system are operating and approved for use by the SDWB.

2.2 INVESTIGATION AND REMEDIATION OF RESERVOIR 1

Once the water supply bypass system is in place, and has been confirmed to be acceptable for use, PCB impacts to Reservoir 1 will be further investigated, and the tank will be remediated prior to being put back into service. Anticipated sampling and analysis during this phase is discussed in Section 4.0.

The following sections discuss the steps proposed for tank remediation. Generally, PCB bulk product wastes will be removed, as their continued use is not authorized (40 CFR §761.62). Other PCB-impacted materials identified within the tank will be removed as well. Because decontaminated pervious concrete surfaces of the tank cannot later be directly in contact with drinking water (40 CFR §761.30(u)(2)), the concrete surfaces of the tank will be encapsulated in a manner that prevents direct contact and allows for long-term monitoring of effectiveness (see Section 2.2.4). The EPA and DOH will be consulted throughout the project to ensure regulatory approval of all remedial work. Should future findings suggest any additional or modified remedial activities, addenda to this RAP will be submitted for regulator review.

2.2.1 Partially drain tank, treat and test the remaining water prior to discharge

The sheen floating on top of the water in the tank has been shown to be impacted with PCBs at concentrations ranging from 0.99 to 39 µg/L. Historically, the water supply draws from the bottom of the tank, with the pumps switching on to refill the tank once the water level in the tank reaches 15 feet. Analytical tests of water collected from points of use in the water supply distribution system have generally not indicated PCBs in excess of the drinking water standard/MCL. On April 16, 2013, water samples were collected from within the tank at various depths below the surface sheen using a bailer, as summarized in Table 7.

Table 7: Results of Tank Water Sampling Conducted on April 16, 2013

Sample ID	Location (feet above tank bottom)	Results (µg/L)	
		Total PCBs Concentration ^a	Reporting Level
PV11	10	ND	0.25
PV12	5	0.58	0.25
PV13	2	0.55	0.25

ID identification

^a Total PCBs quantified as decachlorobiphenyl. Samples analyzed by EPA Method 508A.

Results indicate the the water samples had PCB concentrations below the reporting level or slightly above the MCL of 0.50 µg/L. The variability in the results may indicate the presence of PCB on discrete particles or colloids (e.g., pieces of caulking), rather than dissolved PCBs in the water. The water supply draws from the bottom of the tank (far below the impacted sheen) and the tank must be drained down prior to remediation. To avoid the potential for discharging impacted sheen or potential disturbed sediment/particles while draining, the last 5 feet of water (approximately 250,000 gallons) will not be discharged to the distribution system. After draining the water to a depth of 5 feet, water, sheen, and possibly sediment remaining in the tank is proposed to be treated with a GAC treatment system.

Conservatively performing calculations using a PCB concentration of 39 µg/L (the highest concentration detected in the sheen water samples), and a volume of up to 250,000 gallons, the total mass of PCBs in the tank is estimated to be approximately 37 grams. Conservatively assuming an adsorption ratio of 0.5 percent, approximately 17 pounds of GAC would be required. One 55-gallon GAC adsorber contains approximately 200 pounds of GAC. However, to provide sufficient contact time for effective removal, a 55-gallon GAC is recommended to treat water using a maximum flow rate of 10 gpm. Even with multiple units in parallel, this configuration would not meet a reasonable treatment schedule. Therefore, the limiting variable is not the mass of GAC, but rather the flow rate available. Therefore, a larger GAC system will be mobilized to treat the water at a flow rate of 150 gpm. At 150 gpm, approximately 2 days of treatment and discharge may be required to drain the tank. The treated effluent would be further treated using 10 micrometer (µm) bag filters before and after the GAC units, to capture contaminated suspended particles which may escape treatment by or clog the GAC units (Drawing 1).

Once installed, the GAC system will initially be configured to discharge back into the tank, so that the treatment efficiency can be tested. Upon establishment of steady state, samples of the water entering and exiting the GAC system would be collected for rapid turn-around analysis using EPA Method 8082A. Assuming that the testing indicates adequate treatment (i.e., effluent water total PCB concentration less than 0.5 µg/L), and with DOH and EPA concurrence, the effluent would be discharged to an onsite unlined earthen basin and allowed to infiltrate into the ground surface, or land-applied in a manner that would promote infiltration while preventing surface water runoff. Runoff will not be allowed to leave the site.

The GAC treatment system would remain on site for recycling and treatment of the tank interior decontamination water (Section 2.2.3). The influent stream would be fitted with bag filters (assume 50 µm) to capture the majority of the suspended solids generated during tank decontamination.

At the conclusion of the work, the treatment equipment would be decontaminated and the used GAC and bag filters would be tested and disposed according to applicable regulations.

2.2.2 Further investigate potential PCB-containing material inside the emptied tank

Currently, a relatively small portion of the tank interior is visible and accessible through one access port at the top of the tank. Once the tank is drained, appropriately trained personnel will inspect materials inside the tank to characterize the type, nature, and extent of PCB-containing materials.

The following materials, as well as any other potential sources observed, may require characterization and treatment as indicated below, and in accordance with the Sampling Plan (Section 4.0).

- **Building Materials:** After the tank is emptied, building materials within the tank (potentially including joint sealant caulk and/or concrete sealant) will be inventoried and sampled for total PCBs. All building materials containing PCBs ≥ 50 mg/kg will be classified as PCB Bulk Product Wastes and will be removed as their continued use is not authorized. Other building materials containing PCBs that could contact drinking water will also be removed. Building materials may be disposed of at a non-hazardous waste landfill that is permitted to accept PCBs at these concentrations (not permitted in the State of Hawaii).
- **Sediment:** If sediment is present at the base of the tank, it will be sampled for total PCBs. Sediment will be removed from the tank prior to decontamination of the tank interior. For disposal purposes, sediment material with ≥ 50 mg/kg total PCBs will be containerized and disposed at a Chemical Waste Landfill and sediment material with < 50 mg/kg but > 1 mg/kg total PCBs will be containerized and disposed at a non-hazardous waste landfill permitted to accept PCB Remediation Waste.
- **Smeer Zone:** A "smeer zone" may be present on the concrete because of the presence of a sheen on the water surface and the rising and lowering of water levels within the tank. PCB impacted materials in the smeer zone would be handled and disposed in the same manner as sediments. However, if the material on the side of the tanks is observed to extend below 15 feet it may be determined to be a (possibly weathered) sealant, and classified as a PCB Bulk Product Waste if total PCB concentrations are ≥ 50 mg/kg, as with other building materials.

An addendum to this RAP will be submitted to DOH and EPA after characterization of materials within the tank has been completed. The addendum will include data tables, figures showing sample locations, and extents and quantity estimates of the amounts of materials to be disposed and the landfills to which they will be transported for disposal.

2.2.3 Tank interior decontamination

Bulk removal of identified PCB-containing material will be conducted via mechanical means. This material will be tested prior to removal, and then containerized and shipped to an appropriate (hazardous or non-hazardous) mainland disposal facility.

After bulk removal, a pressure washer will be used to perform double-wash/rinse cleaning of the tank interior, in accordance with TSCA guidance under Subpart S. Specifically, the procedures specified under §761.372 will be utilized and the solvent to be used will be an aqueous solution containing the terpene hydrocarbon d-limonene. Recycling of wash water in accordance with TSCA requirements will be performed (combined with bag filtration and GAC treatment). Final bulk samples of the tank in the vicinity of the removed PCB Bulk Product Wastes will be collected to document conditions upon completion of PCB removal. The number and location of samples will depend on a visual survey of the tank interior following pressure washing and will be subject to regulator review, but anticipated procedures for this sampling are described in Section 4.0. The interior of the tank surface will be encapsulated regardless of the post-decontamination sampling results, such that the surface will not contact drinking water in the future (Sections 2.2.4 and Section 2.2.5).

2.2.4 Coat the Interior Surfaces of the Tank with Two Layers of Selected Coating Materials

Following pressure washing of the tank interior, the inside of the tank will be coated with a high-performance specialty coating applied in two layers of contrasting colors, which will prevent contact between drinking water and the cleaned concrete surfaces (Drawing 2).

Prior to application of coatings to the interior tank surface, the tank will be inspected for any structural deficiencies, cracks, or spalls that may require rehabilitation. Appropriate repairs to the concrete will be conducted as required.

The concrete surface will then be prepared in accordance with *SSPC-SP13/NACE No. 6, Surface Preparation of Concrete* (SSPC 1997), which defines requirements for the surface preparation of concrete prior to the application of bonded protective coating systems. Generally, the concrete surface will be prepared so that it is free of laitance, loosely adhering concrete, dust, and similar surface contaminants, thereby providing a sound uniform substrate suitable for the application of protective coating systems. The concrete surface profile will be a minimum of CSP-5 as noted in *SSPC SP13/NACE No. 6* (SSPC 1997) and by the International Concrete Repair Institute.

Coating materials applied to the interior tank surface will be selected in accordance with *NSF/ANSI Standard 61 Drinking Water System Components* (NSF International 2013), which establishes minimum requirements for materials that contact drinking water. Two such materials, epoxy and polyurethane, are commonly used coating materials that are self-priming and come in a variety of colors. The coating material will be applied in two layers with highly contrasting colors to ensure proper application thickness and to allow for monitoring against wear over time. Highly contrasting colors will be used so that any impacts to the outer layer can be detected before the inner layer is affected, thus preventing contact between the concrete and the drinking water. The total dry film thickness will range between approximately 10 thousandths of an inch (mils) to over 60 mils (i.e., 0.25 millimeter [mm] to over 1.5 mm). Drawing 2 presents the tank encapsulation details. Industry leading coating suppliers include but are not limited to Tenemec, Induron, and Sherman Williams, all of which are represented in Hawaii.

It is anticipated that scaffolding will be erected inside the tank to perform the work. Therefore, access and ventilation will need to be adequately addressed during concrete rehabilitation, surface preparation, and coating activities. In addition to the existing access hatch, construction of a second hatch may be required to allow the contractor to properly ventilate the tank while work is performed. Furthermore, pumps will be loaded through the top access hatch and adequate clearance is essential for contractors to conduct their work. Because the tank is a permit-required confined space, proper certification and documentation will be required prior to any work per Occupational Safety & Health Administration standards.

Once the concrete surface is prepared (i.e. existing materials and coating removed, any structural deficiencies addressed), the construction duration is estimated to be approximately two weeks, depending on access and equipment constraints.

To guard against potential additional impacts, the tank will not be put back into service until the source investigation has been completed.

2.2.5 Long-term inspection, maintenance, and monitoring of encapsulant

An encapsulant will be installed on the interior of the tank following decontamination. The encapsulant will be applied in two contrasting colors so that its integrity can be monitored visually, and corrective action, if necessary, can be taken before the inner layer is affected. The integrity of the encapsulant will be regularly inspected. If the color of the inner coating is visible, the outer coating will be repaired.

2.3 TANK EXTERIOR REMEDIATION

PCB Bulk Product Waste caulk has been identified within joints on the exterior of the tank, and no other suspect materials were identified on the tank exterior. Continued use of this caulk is not authorized, therefore it will be removed using mechanical methods. Following the removal of the caulk, it will be containerized and disposed of as a non-hazardous waste in accordance with the requirements of §761.62.

Concrete panels on the exterior of the tank may be impacted by PCBs due to leaching of PCBs from the caulk into the concrete. However, impacted concrete cannot be removed from the panels as it would compromise the structural integrity of the tank. Thus, following the removal of caulk from the joints, an exterior grade encapsulant will be applied to the exterior of the tank, as indicated in Drawing 2.

Long-term inspection will be performed visually. Maintenance, including reapplication of encapsulant, may be required if wear of the encapsulant is observed.

2.4 SOURCE INVESTIGATION

Based on the results of previous and recent investigations, caulking and possibly sealant are sources of the PCB contamination. The rare and sporadic detection of PCBs in various points in the water system, including the differing results of analyses of split samples, and the PCB concentrations in water samples collected at different levels within the tank, may suggest the presence of isolated particles or colloids containing PCBs originating from the tank, rather than dissolved PCBs in the water supply system. Therefore, the identified PCB-containing caulking and/or tank sealant may be the sole source of the detected PCBs. However, prior to putting the system back online, any other potential ongoing sources of contamination must be investigated to ensure safe water and prevent the cleaned tank and water system from being re-impacted.

A factory representative recently visited the site to assess the backflow valves that were originally installed to prevent water from the tank from flowing back to the pumphouses. He noted that the valves are made of metal, and appeared to be largely operational, although he could not conclusively state that material could not backflow from the tank to the pumphouses. It remains possible that small particles containing PCBs migrated back to the pumphouses from the tank, causing the sporadic and isolated detections of PCBs at the pumphouses. There are no records of previous sources of PCBs at the wells or pumphouses, and no other current sources upstream of the tank have been identified. However, HEER site investigations have identified two areas warranting further analysis:

- One recent wipe sample collected by HEER from the Well 2 drive shaft above the pump was reported to contain “traces of pentachlorobiphenyl, too low to detect other PCBs, may need ECD for more sensitive detection; oil consistent with some lube oil profiles from other projects.” Because no quantitative laboratory results were available, additional wipe sampling will be performed in conformance with 40 CFR §761.123, and analyzed using EPA Method 8082A by a laboratory following ELAP standards. If PCBs are detected, further details will be requested of the lab such as a qualitative characterization of Aroclor mixtures (if any), evidence of weathering or degradation, and any anomalous peaks.
- DOH reported two alternate laboratory results from Well 2 pumphouse multi-incremental soil samples: “presence of PCB (semi-quantitative result)” and “ND (0.0033 ppm RL).” Additional sampling of soil in this area, in conformance with TSCA Subpart N will be proposed as part of the Phase 2 Soil Sampling Plan, to be submitted under separate cover. These samples will be analyzed using EPA Method 8082A by a laboratory following ELAP standards, to determine whether PCBs are present in the soil in this area.

Additionally, during the remedial work, while the water supply system is isolated from Reservoir 1, which has known PCB impacts, water samples will be collected on a routine, weekly basis at the wellhead and downgradient in the distribution system for analysis using EPA Method 508A (in conformance with State drinking water quality requirements). If PCBs are not detected while the system is isolated from the impacted tank, this will be considered evidence that the tank is the source of the PCBs.

If no additional sources are identified, the tank, once remediated, can be put back online after the post remediation water supply testing (Section 2.5). If additional sources are identified, further

remedial action modifications to this plan may be required, subject to regulator approval, prior to putting the tank back into service.

All investigation findings will be submitted to DOH and EPA, and additional remedial actions or sampling data, if any, will be presented in addenda to this RAP.

2.5 POST REMEDIATION WATER SUPPLY SAMPLING

PUCI will perform initial sampling of the water supply upon completion of remedial activities, at a frequency and at locations to be determined in consultation with regulators. PUCI will also conduct short- medium- and long-term monitoring of the water in the Princeville water supply in accordance with SDWB requirements.

2.6 PHASE 2 INVESTIGATION

A Phase 2 investigation plan is being developed under separate cover for regulator review and approval. The Phase 2 Investigation will be conducted to delineate the extent of PCB contamination in soil and sediment the following areas:

1. Around the tank
2. In the vicinity of the former skimmer discharge area
3. In the vicinity of abandoned Well #3, near the tank
4. In surface soil surrounding the Well #2 pumphouse

Sampling grids in accordance with the soil characterization guidelines established in TSCA Subpart N will be proposed in these areas. In the first area, sampling points will be biased towards the tank as the greatest PCB impacts to soil are likely to be near the base of the tank. Soil samples will be collected from a surface interval of 0 to 0.5 foot, and submitted for analysis by EPA Method 8082A for total Aroclors to an ELAP-certified laboratory. If required, additional soil sampling in the lateral or vertical directions may be performed to further delineate impacts to soil with total PCB concentrations exceeding 1 mg/kg.

Following the delineation of PCB-impacted soil, AECOM will develop an addendum to this RAP for submittal to the DOH and EPA. It is anticipated that the addendum will conform with the requirements specified in §761.61(a). Specifically, characterization sampling will be performed in accordance with TSCA Subpart N and post-excavation verification sampling, if needed, will be performed in accordance with Subpart O. Because no routine tasks are performed in these areas, the areas around the tank and the wells are considered low-occupancy under TSCA. However, given the nature of the site and proximity to the public water supply, the remedial goal for removal of PCB impacts to soil will likely be <1 mg/kg.

2.7 WASTE STORAGE AND HANDLING

A waste storage area will be established at the start of the remedial project. A fenced waste storage area, signed with an M_L mark, will be constructed. Water tight containers meeting federal Department of Transportation requirements for transport of hazardous wastes, will be used to store solid wastes. All waste containers will be labeled with the M_L mark after wastes have been placed in the container. The date that waste storage was begun will also be marked on the container and no wastes will be stored onsite for more than thirty days.

Suspected PCB containing materials will be stored following the procedures specified herein until analytical data is available to determine appropriate disposal methods. Personal protective equipment and rags used for decontamination will be stored separately for disposal as non-hazardous wastes.

Water will be treated onsite using the GAC system and then tested. Water determined to contain <0.5 µg/L is suitable for unrestricted use per 40 CFR 761.79(b)(1)(iii), and will be reused or allowed to infiltrate onsite. Water will not be allowed to discharge from the site.

2.8 EQUIPMENT DECONTAMINATION

All metal equipment used in the performance of sampling or remediation activities and that have contacted potentially PCB-impacted materials will be decontaminated in accordance with the procedures specified in §761.79(c)(2). Specifically, the equipment will either be double wash-rinsed or swabbed with an absorbent pad soaked in a solvent.

3.0 REMEDIAL ACTION DOCUMENTATION

Documentation of the field remediation activities will be performed on a daily basis by the environmental contractor and a field inspector during the performance of the remedial measures. The field inspector will be responsible for completing the documentation described below. A Completion Report (CR) will be completed after the conclusion of the abatement, decontamination, and restoration program, in accordance with 40 CFR §761.125(c)(5). The CR will summarize the remedial activities, and will include the following information.

3.1 FIELD NOTES

The field inspector will maintain a daily log of on-site activities. That log will include, but not be limited to the following.

- Health and safety meetings
- Personnel and equipment on site
- Field procedures and observations
- Abatement, decontamination, and restoration progress
- Sample locations with selection criteria, samples collected, analyses performed, sample handling
- Telephone or other instructions
- Health and Safety issues
- Health and Safety monitoring data including dust monitoring
- Estimate of wastes generated and stored and waste handling and storage procedures
- Waste transporter information

3.2 PHOTOGRAPHS

Daily photographs will be taken of representative activities, such as excavation, decontamination, sampling, and waste handling and storage. Copies of selected photographs with appropriate captions will be included in the CR.

3.3 TRANSPORT AND TREATMENT/DISPOSAL CERTIFICATIONS

Manifests and/or Bills of Lading for the transportation, treatment and disposal of waste materials and certifications of the disposal of the wastes, if necessary, will be obtained from the transporter and from the treatment/disposal facility. Copies of these forms will be included in the CR and records will be maintained in accordance with the requirements as specified in 40 CFR 761 Subpart K (PCB Waste Disposal Records and Reports).

3.4 COMPLETION REPORT

The CR will be prepared upon completion of all remedial activities. The CR will include, at a minimum, the following.

- Site description
- A description of field procedures
- Verification sample locations and analytical results
- A photographic record of the abatement, decontamination, and restoration activities

- Waste transport and disposal information including quantities sent to each facility
- Copies of waste manifests, bills of lading, and certificates of disposal

Any additional information required under the EPA Approval shall also be incorporated into the CR.

4.0 SAMPLING AND ANALYSIS PLAN

This sampling and analysis plan has been developed to support the characterization and verification sampling requirements associated with the tank remediation described in this RAP. Additional characterization is still required as part of the tank remediation, but cannot be completed until the tank has been emptied of water. Prior to draining the tank, if a sheen is observed on the water surface, a sample of the sheen will be collected. Once the tank has been drained, sampling will be performed to test for PCBs in the following matrices:

- Residual water drained from the tank
- Building materials identified within the tank
- Materials potentially impacted by PCB releases within the tank
- Materials potentially impacted by PCB releases external to the tank

Verification sampling will also be performed following the completion of decontamination and remedial activities to document the PCB concentrations, if any, in materials remaining and to determine if remedial goals have been achieved.

Additionally, a Phase 2 (characterization) Sampling Plan is also being prepared to address media and material external to the tank (e.g., nearby soil, materials in or near the pump stations, etc.). The Phase 2 Sampling Plan will be submitted as an addendum to this RAP.

All samples will be collected in-situ and a minimum of three samples of each matrix identified will be collected. All samples submitted will consist of a single phase (oil, water, or solid) and will be analyzed for total PCBs by EPA Method 8082A. For solid matrices, extraction will be performed using either EPA Method 3540 or 3550. For aqueous matrices, extraction will be performed using either EPA Method 3510 or 3520. If a separate oil phase is identified, it will be sampled separately and diluted in accordance with EPA Method 3580 prior to analysis.

Samples of homogenous materials (caulks or sealants) will be collected by cutting or scraping a sample from areas where they are applied. Samples of concrete will be collected following the procedures established in "Standard Operating Procedure for Sampling Porous Surfaces for Polychlorinated Biphenyls (PCBs)," The Office of Environmental Measurement and Evaluation, EPA New England – Region 1, May 5, 2011 (Appendix D).

4.1 PROJECT OBJECTIVES AND DATA QUALITY OBJECTIVES

The primary goals of the sampling and analysis are to characterize (identify and quantify) PCB in tank and related materials, and to determine PCB concentrations in materials to be encapsulated. The presence of PCBs in these materials may be due to addition of PCBs to materials during manufacturing (e.g., caulk or sealant) or from releases from PCB containing materials (e.g., concrete, sediment, or residual water). The sampling plan and data quality objectives (DQOs) are described in the following sections.

4.1.1 Confirm Treatment of Residual Water

Residual water to be drained from the tank will be decontaminated as described in this RAP by passing the water through GAC and filters. Decontaminated water will be stored in a container (probably Reservoir 1) after discharge from the GAC system. After treatment is complete, a minimum of three water samples will be collected at different locations within the tank and tested for total PCB concentrations by EPA Method 8082. If total PCB concentrations are less than 0.5 µg/L in all three samples the water will be considered decontaminated as per the requirements of §761.79(b)(iii) for unrestricted reuse and discharged as described in the RAP.

4.1.2 Characterize Building Materials and Nature and Extent of PCB Impacts to the Tank

The interior of the tank will be surveyed to evaluate the presence and extents of potentially PCB-containing building materials (e.g., caulking and sealants) present, and the materials they contact (which may therefore be impacted). The survey will also determine whether other materials are present that may be impacted by releases of PCBs (e.g., sediment or smear zone on the tank interior walls).

For the building materials, a minimum of three samples of each homogenous material will be collected and analyzed for total PCBs by EPA Method 8082A. If any one sample out of the three total for each homogeneous material is found to contain PCBs at concentrations ≥ 50 mg/kg, that homogenous material will be classified as a PCB Bulk Product Waste. These data will be used to determine the presence of PCB source materials within the tank that may be impacting water stored within the tank and to determine remedial actions.

For the other materials that may be impacted by PCBs, a minimum of three samples of each material will be collected and analyzed for total PCBs by EPA Method 8082A. If any one sample out of the three total for each material is found to contain PCBs at concentration >1 mg/kg, that homogenous area will be classified as a PCB Remediation Waste. Remedial decisions will be made based upon determined PCB concentrations.

For building materials that are in contact with PCB Bulk Product Wastes, a minimum of three samples of each material in contact with each homogenous building material (e.g., concrete in contact with a caulk or sealant) will be collected to determine if the building material has been impacted by releases of PCBs from the PCB Bulk Product Waste. The samples will be collected at a point of contact between the PCB Bulk Product Waste and the building material so as to determine "worst case" PCB concentrations in the building materials. Specifically, if a caulk is present within the tank, samples of the concrete will be collected after the caulk has been removed. Remedial decisions will be made based upon determined PCB concentrations.

For building materials that are in contact with PCB Remediation Wastes, a minimum of three samples of each material in contact with a PCB remediation waste (e.g., concrete in contact with sediment at the base of the tank or smear zone remaining after the tank is drained) will be collected to determine if the building material has been impacted by releases of PCBs from the PCB Remediation Waste. Remedial decisions will be made based upon determined PCB concentrations.

4.1.3 Characterize Building Materials to Remain After Decontamination

After remediation of the inside and outside of the tank (Section 2.2.4 and Section 2.3), but prior to encapsulation, verification samples will be collected of the concrete to be encapsulated, to document its post-remediation condition. The following samples are proposed:

- Interior samples:
 - Three samples of concrete from tank floor
 - Six samples of concrete from the interior vertical walls as follows:
 - Three samples of concrete at the point of contact between the former location of caulk and concrete (e.g., at the joints)
 - Three samples equidistant between caulked joints
- Exterior samples:
 - Three samples of concrete at the point of contact between the former location of caulk and concrete (e.g., at the joints)
 - Three samples equidistant between caulked joints

Results of this testing, as well as the Phase 2 Sampling, will be made available as it is received, and will be detailed in the Completion Report.

5.0 REFERENCES

- AECOM Technical Services, Inc. (AECOM). 2013. *Health and Safety Plan Phase I Soil Sampling, Princeville Utilities Company Inc., Princeville, Kauai, Hawaii*. March.
- 40 Code of Federal Regulations (CFR) 700-799. *Toxic Substances Control Act*.
- 40 Code of Federal Regulations (CFR) 750 and 761. 1998. *Disposal of Polychlorinated Biphenyls (PCBs); Final Rule*. FR Volume 63, No. 124, p. 35383. 29 June.
- Department of Health, State of Hawaii (DOH). 1994. Hawaii Administrative Rules, Title 11, Chapter 58.1: *Solid Waste Management Control*. January.
- . 2009. *Technical Guidance Manual for the Implementation of the Hawaii State Contingency Plan*. Interim Final. Honolulu: Office of Hazard Evaluation and Emergency Response. 21 June. <http://www.hawaiidoh.org/tgm.aspx>.
- NSF International. 2013. *NSF/ANSI Standard 61, Drinking Water System Components – Health Effects*. Continuous updates.
- SSPC: The Society for Protective Coatings (SSPC). 1997. *SSPC-SP 13/NACE 6 Surface Preparation of Concrete*. Issue 97, Part 11.

Figures

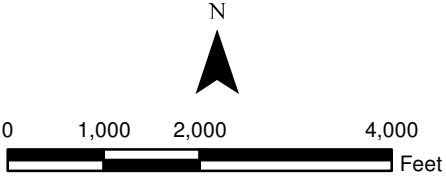
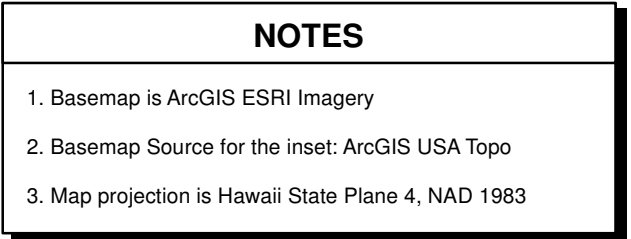
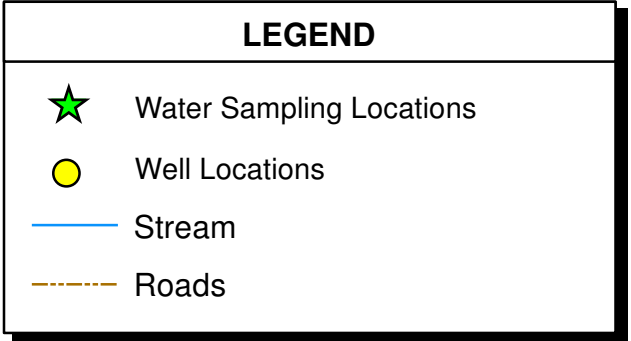
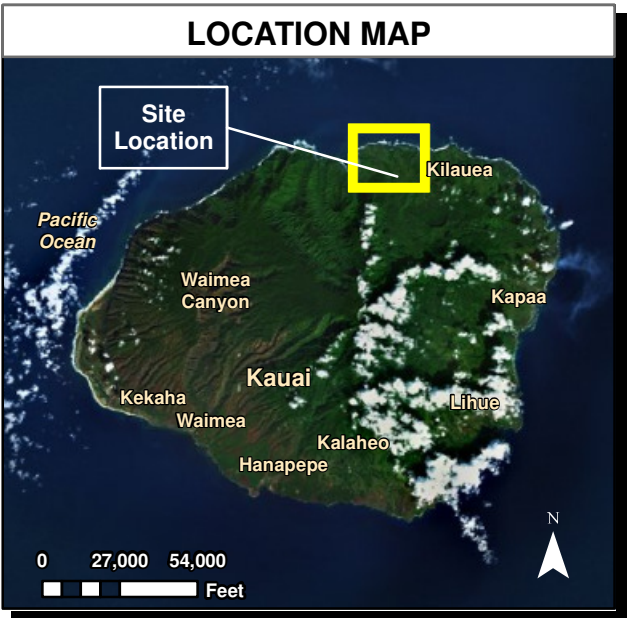


Figure 1
Site Location Map
Response Plan
Princeville Utilities Company
Princeville, Kauai, Hawaii

Path: P:\ENV\Non-Federal\Princeville\Princeville Water\6.0 Proj Input\02_GIS\Figure 2 AECOM Soil Sampling Location.mxd

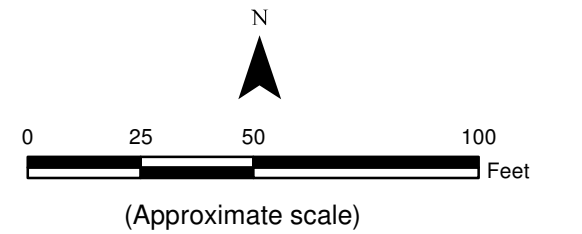
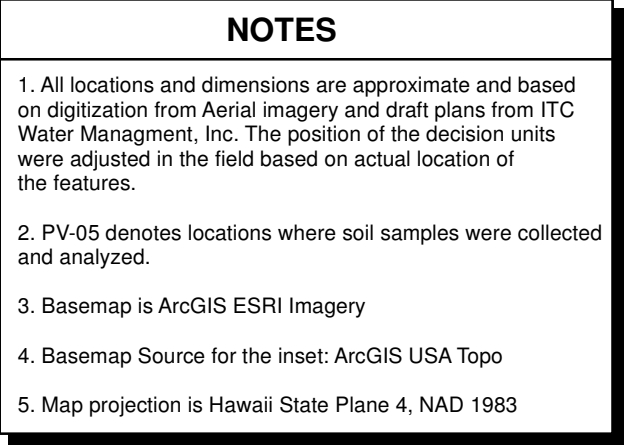
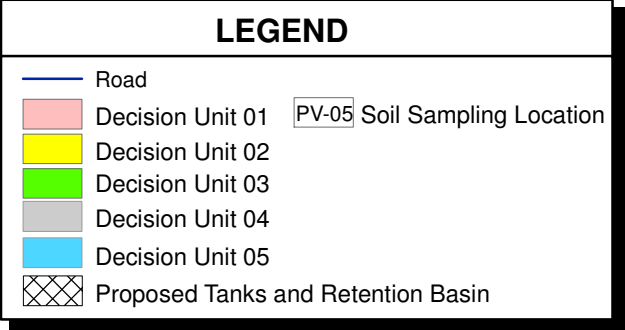
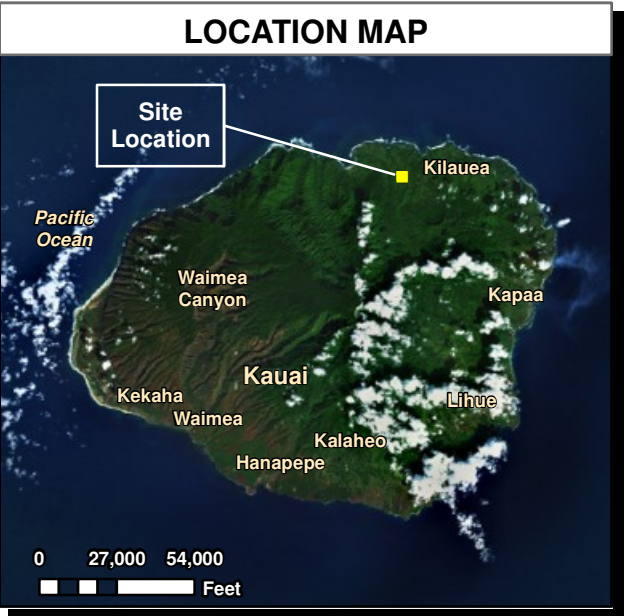
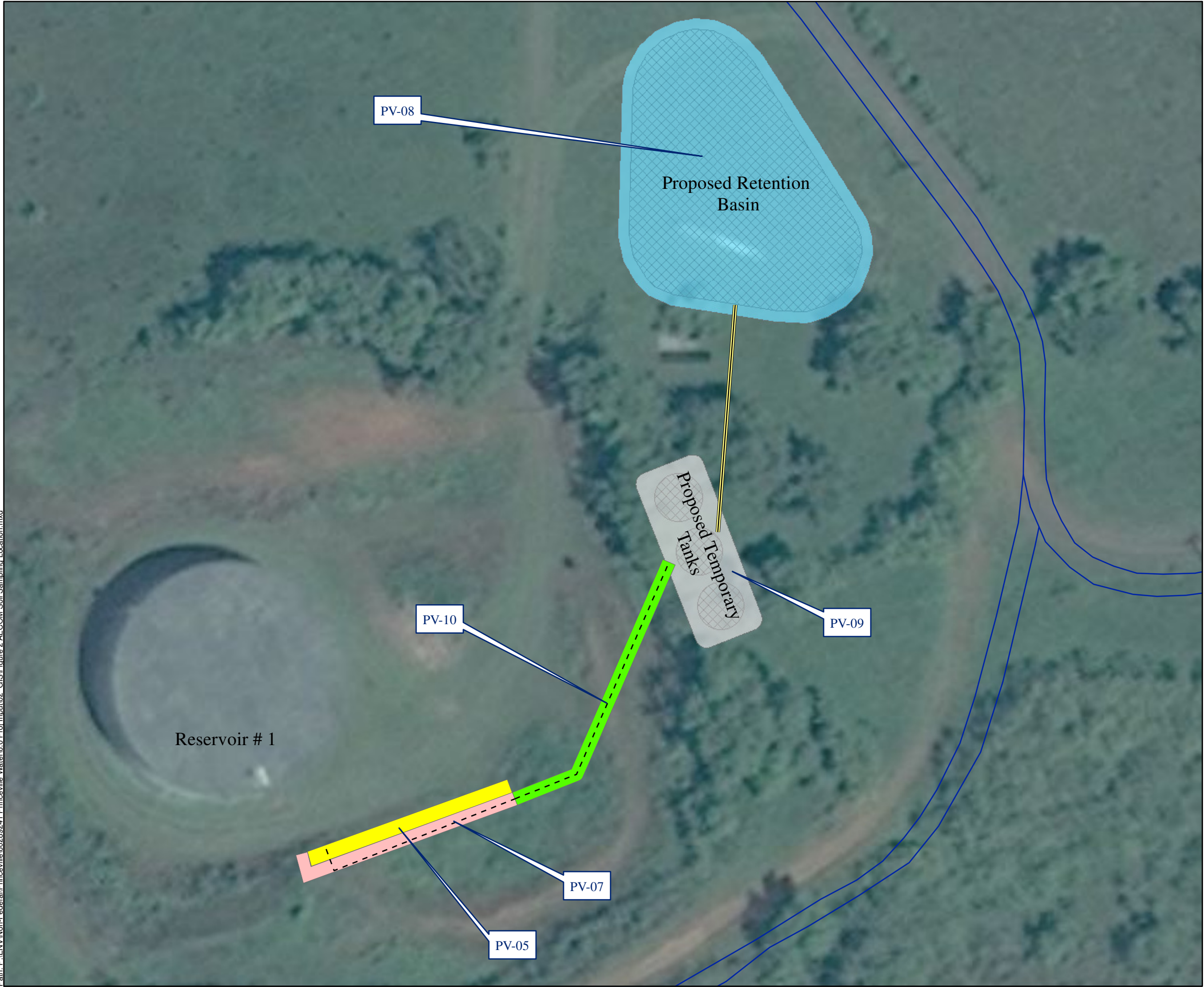


Figure 2
AECOM Phase I Soil
Sampling Locations
Response Plan
Princeville Utilities Company
Princeville, Kauai, Hawaii

Path: P:\ENV\Non-Federal\Princeville\Water\6.0 Proj\Input\02_GIS\Figure 3 HDOH Soil Sampling Location.mxd

Sample	Parameter	Results (mg/kg)
Soil from Excavation Pit Outside Tank	Total PCBs	5
	Aroclor-1254	ND
	Aroclor-1260	0.027
DU 01	Aroclor-1254	ND
	Aroclor-1260	0.027
	Total PCBs	0.027
DU 02	Aroclor-1254	6.0
	Aroclor-1260	12.0
	Total PCBs	18.0
DU 03	Aroclor-1254	0.73
	Aroclor-1260	1.2
	Total PCBs	1.93
DU 04	Aroclor-1254	1.6
	Aroclor-1260	1.4
	Total PCBs	3.0
DU 05	Aroclor-1254	0.031
	Aroclor-1260	0.029
	Total PCBs	0.06
DU 06	Total PCBs	ND



DU	Location	Length (ft)	Width (ft)	Area (ft ²)	Number of Increments
DU-1 (5,6)	Former Building	50	50	2,500	36
DU-2	Tank Perimeter	175	5	1,650	35
DU-3	Tank Perimeter	175	5	1,650	35
DU-4	Tank Discharge	25	8	200	33

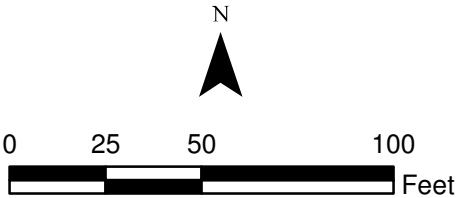
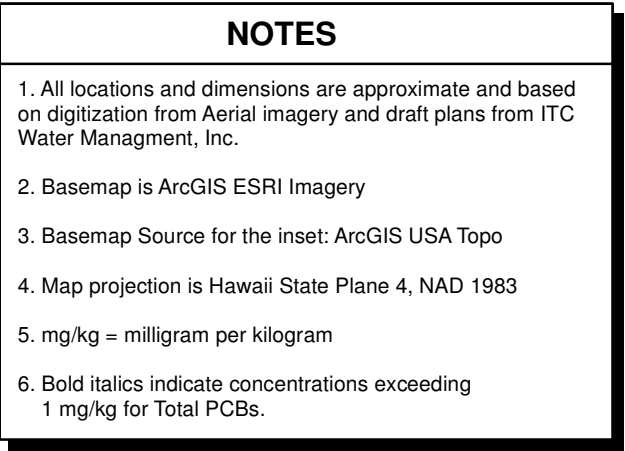
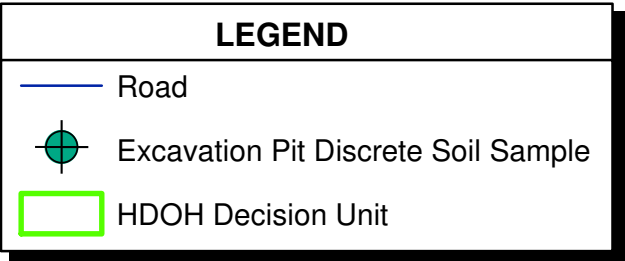
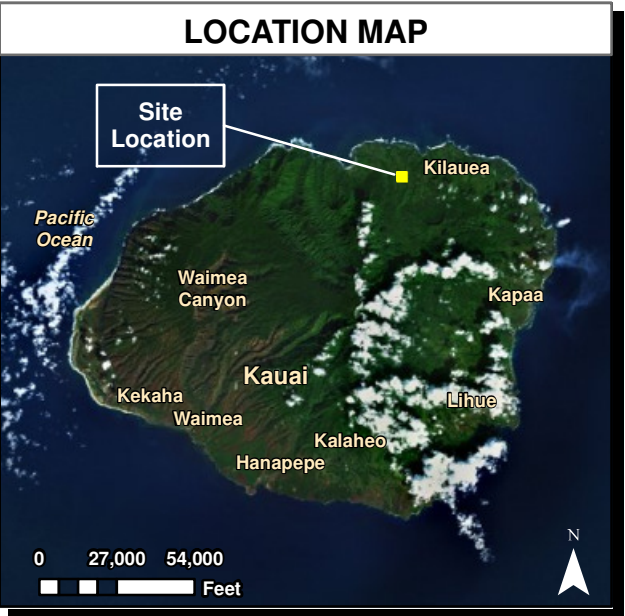
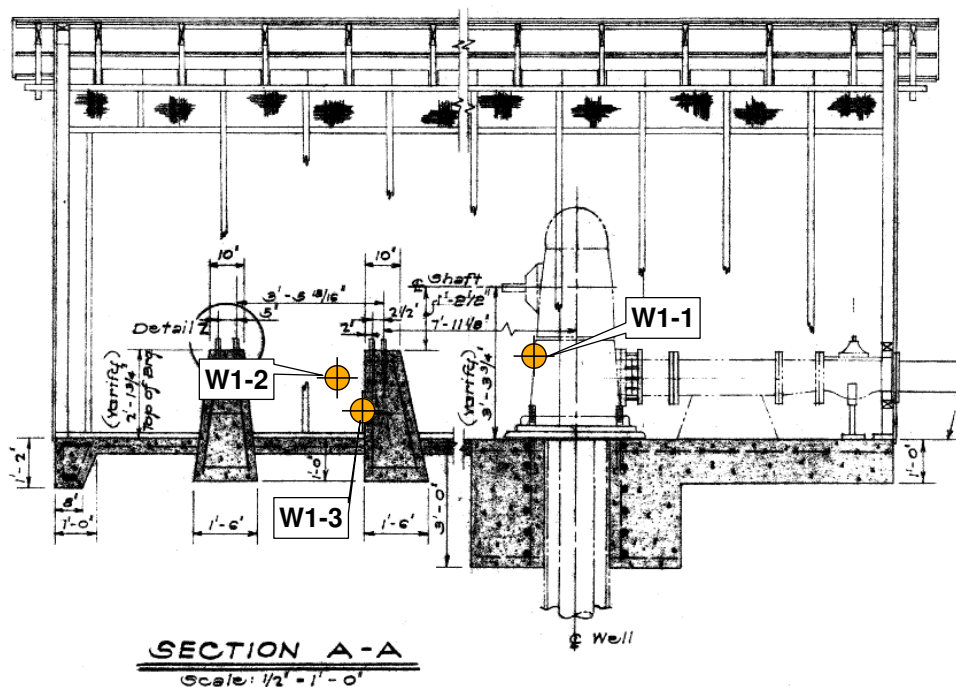
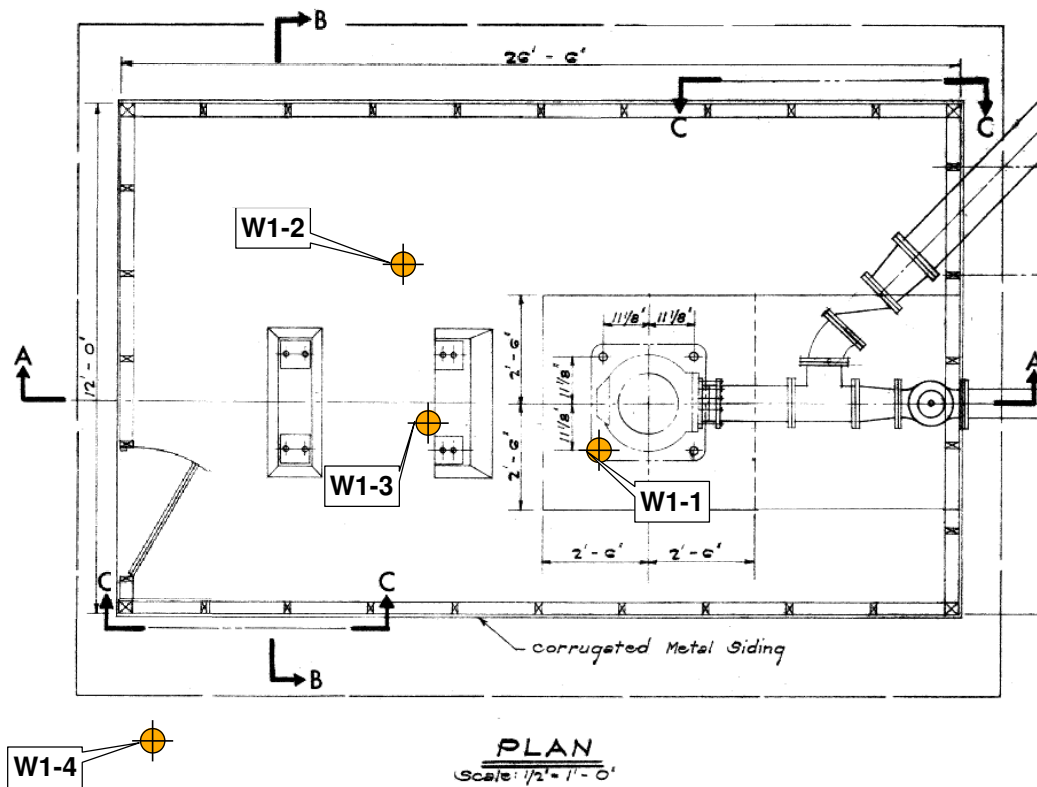


Figure 3
HDOH Multi-incremental Soil
Sampling Locations
Response Plan
Princeville Utilities Company
Princeville, Kauai, Hawaii



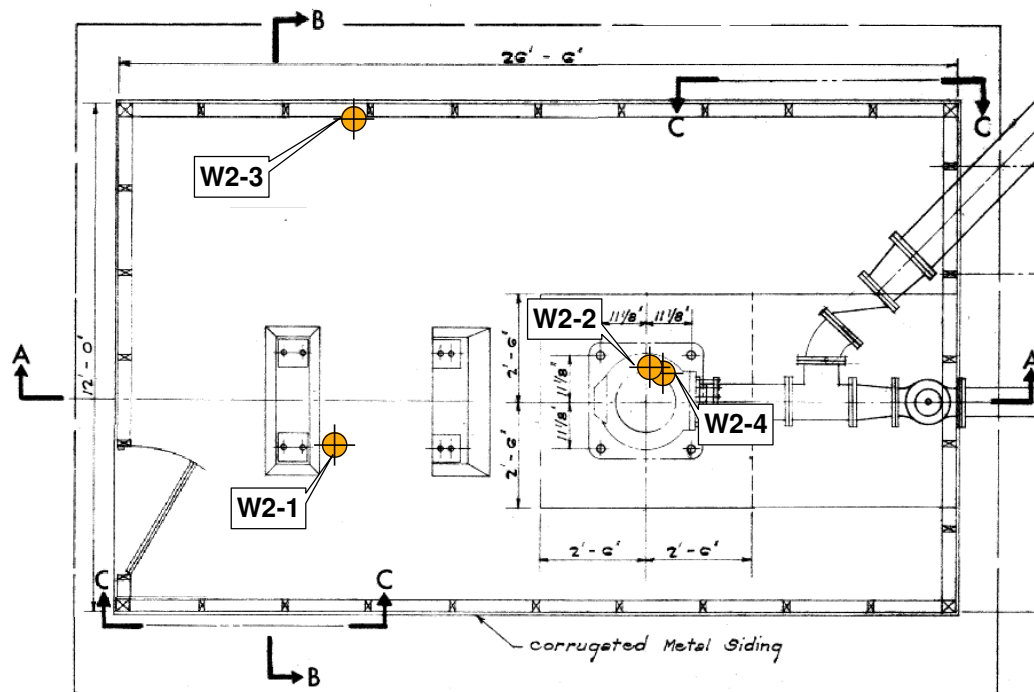
Legend

Wipe Sampling Locations

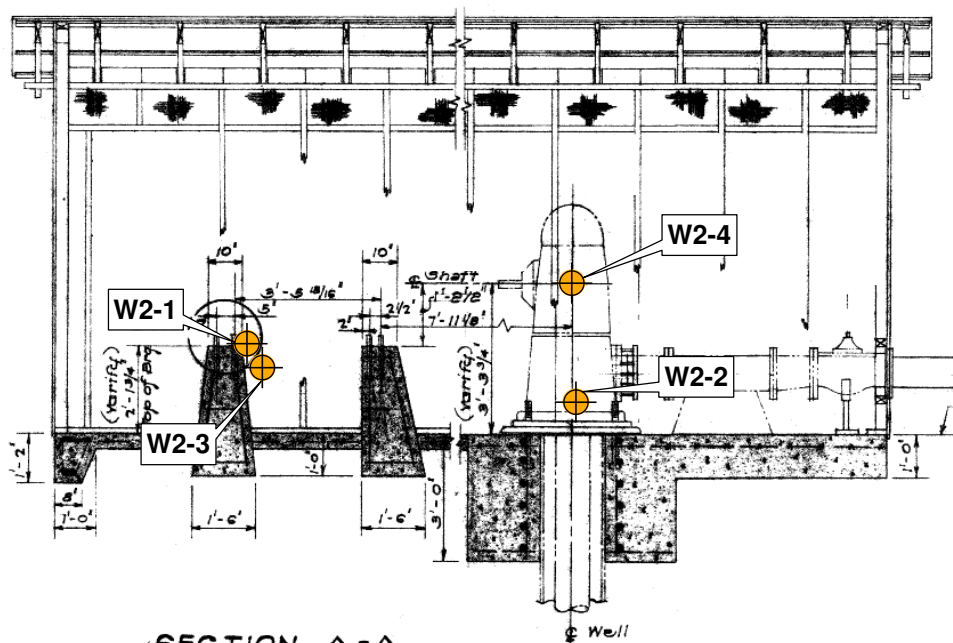
Notes

Source: Princeville Wells Plan1973.

Figure 4
Well #1 sampling Locations
Response Plan
Princeville Utilities Company
Princeville, Kauai, Hawaii



PLAN
Scale: 1/2" = 1' - 0"



SECTION A-A
Scale: 1/2" = 1' - 0"

Legend



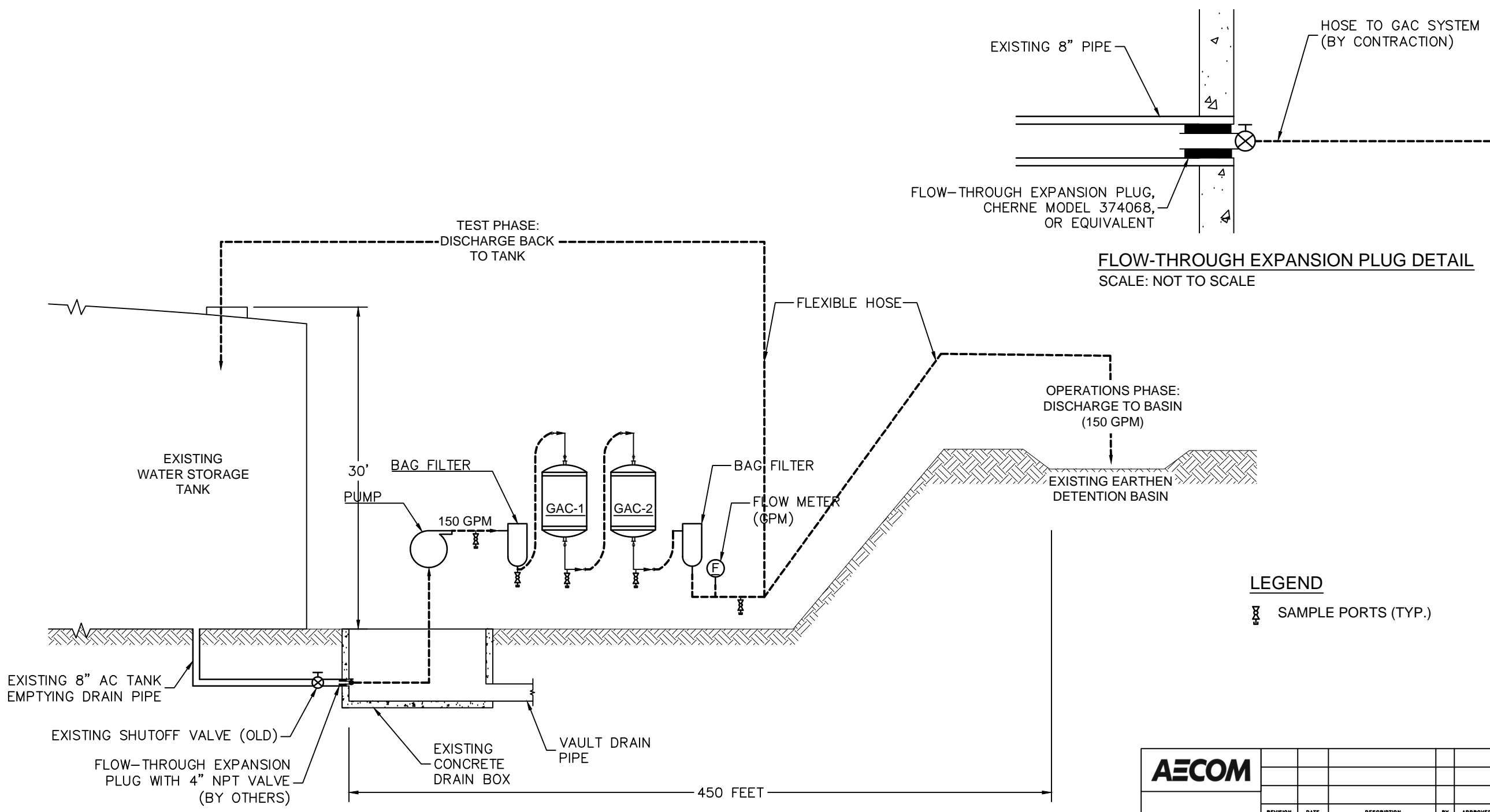
Wipe Sampling Locations

Notes

Source: Princeville Wells Plan1973.

Figure 5
Well #2 Sampling Locations
Response Plan
Princeville Utilities Company
Princeville, Kauai, Hawaii

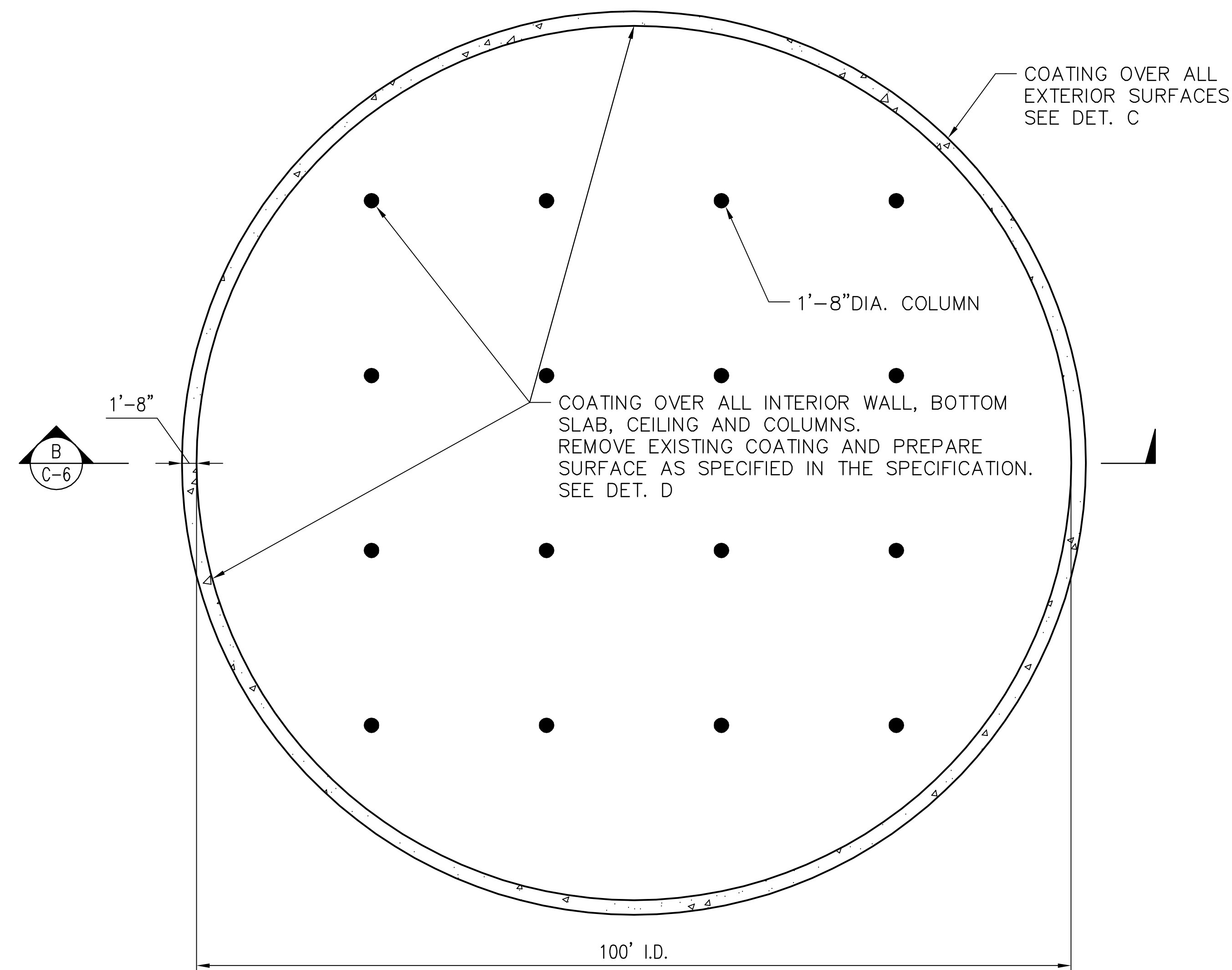
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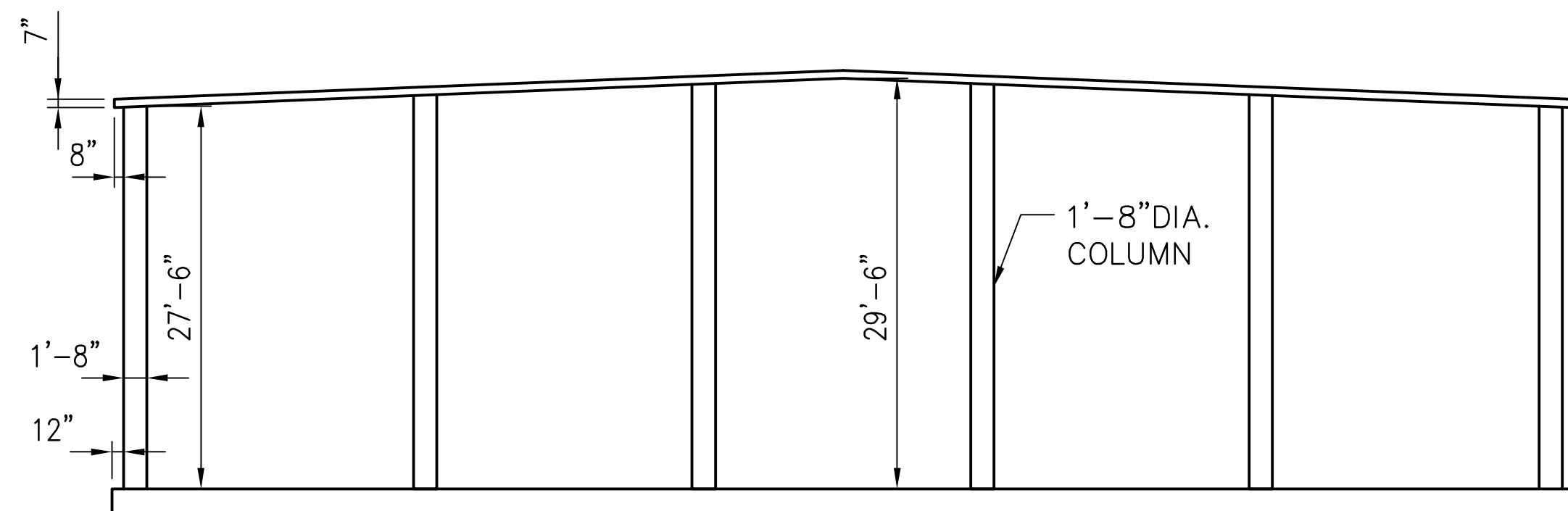
NOTES:
 DRAWINGS BASED ON DESIGN DRAWINGS, NO AS-BUILTS WERE AVAILABLE. DIMENSIONS ARE APPROXIMATE.

GAC TREATMENT SYSTEM SCHEMATIC
 SCALE: NOT TO SCALE

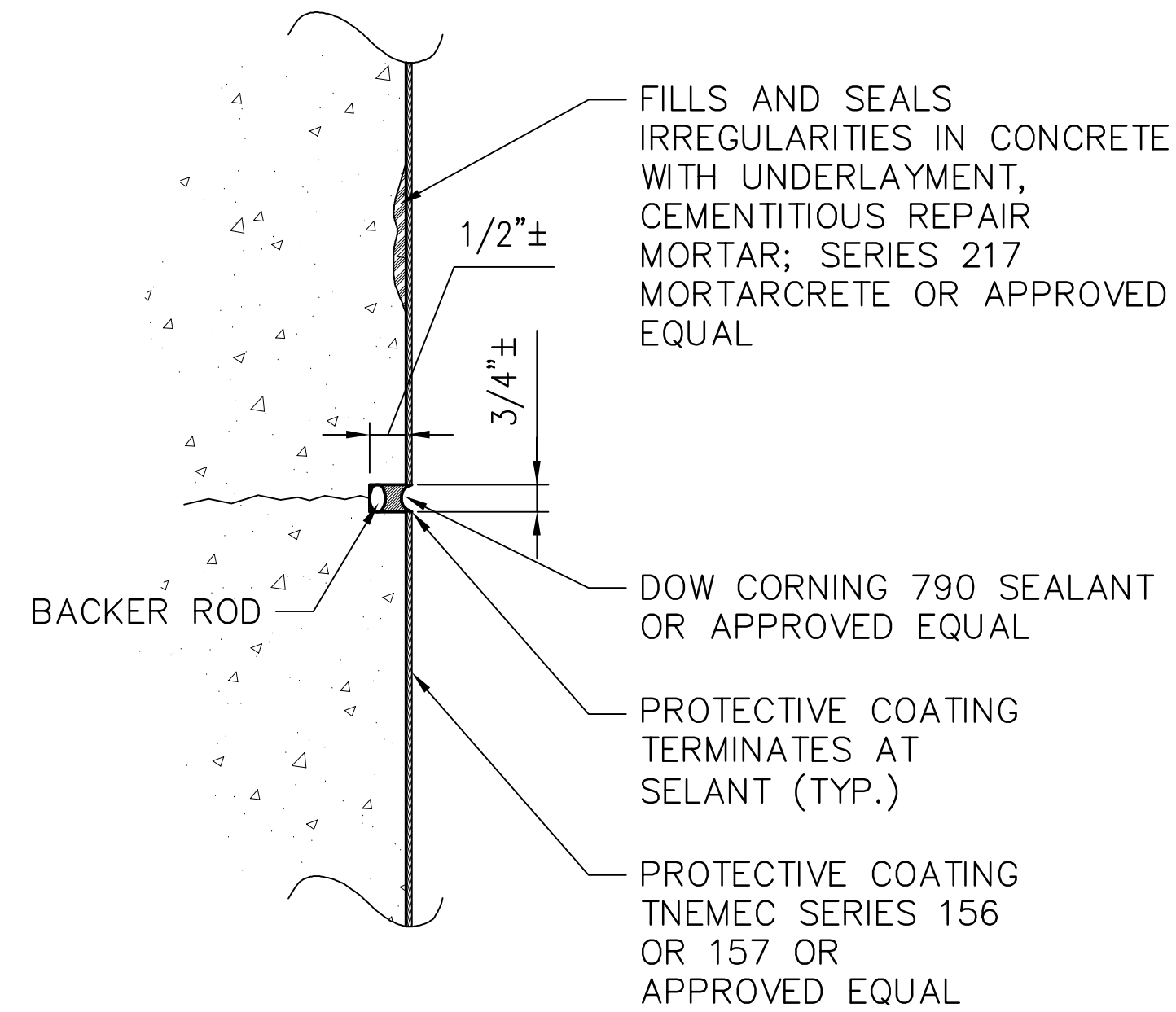
AECOM THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION Signature _____ Expiration Date of the License _____					
		REVISION	DATE	DESCRIPTION	BY
		DRAWING 1			
		GAC TREATMENT SYSTEM SCHEMATIC			
DRAWN BY: _____ TRACED BY: _____ CHECKED BY: _____		F B C B	SHEET _____ OF _____ SHEETS		



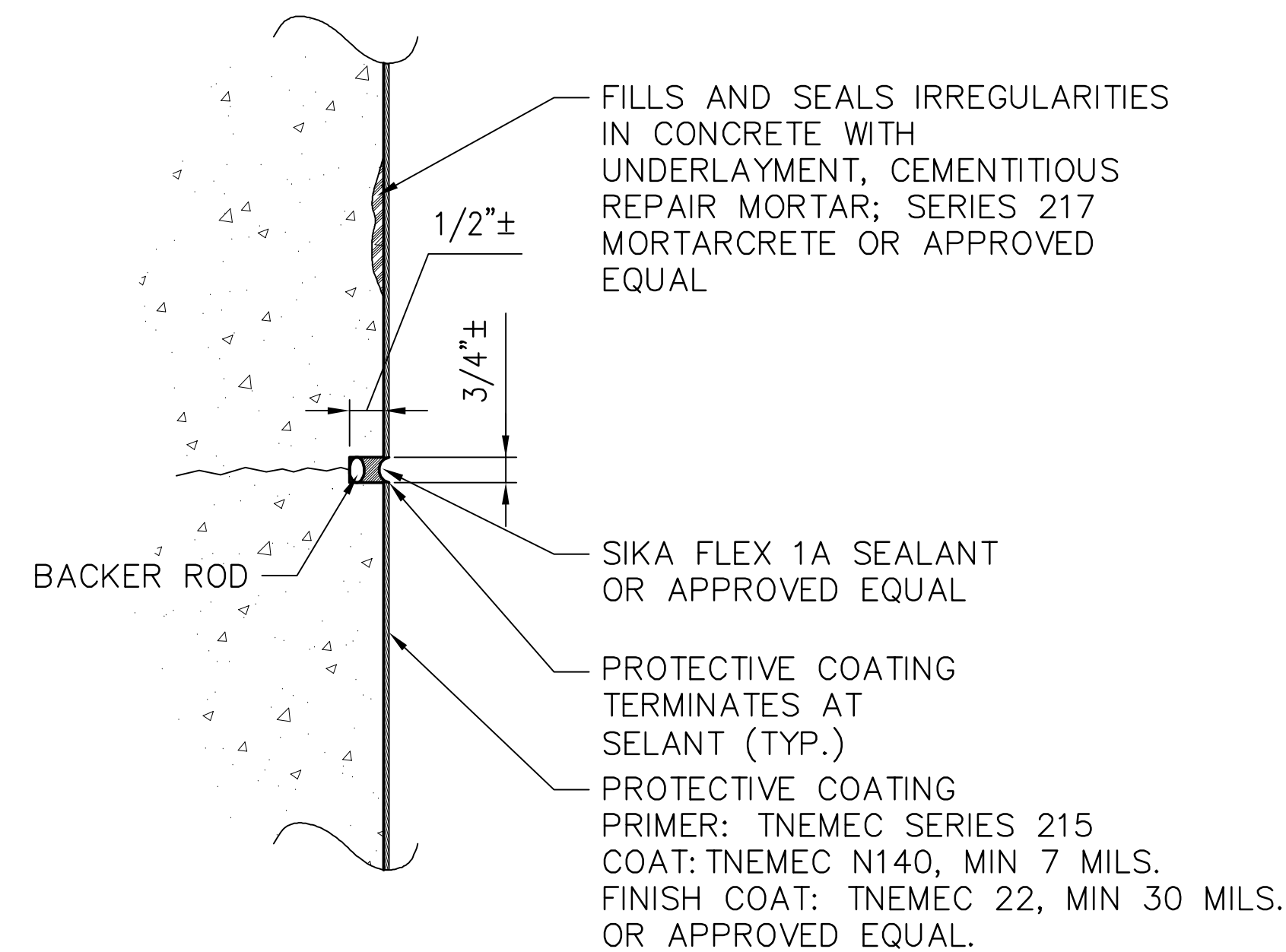
A PLAN
C-6 SCALE: NOT TO SCALE



B SECTION
C-6 SCALE: NOT TO SCALE



C JOINT DETAIL (EXTERIOR SURFACES)
C-6 SCALE: NOT TO SCALE



D JOINT DETAIL (INTERIOR SURFACES)
C-6 SCALE: NOT TO SCALE

NOTES:

1. NO AS-BUILTS WERE AVAILABLE TO REFERENCE IN DEVELOPING THESE PLANS. THE CONTRACTOR MUST CONFIRM THE LOCATION AND DIMENSIONS OF ALL FEATURES SHOWN.
2. ALL JOINTS ARE ASSUMED TO CONTAIN PCBS IN THE CAULKING, BOTH INSIDE AND OUTSIDE OF THE TANK. THE CONTRACTOR MUST CONFIRM AREAS OF POTENTIAL CONTAMINATION AND REMOVE ALL CAULKING.
3. CONTRACTOR SHALL INSPECT JOINTS BETWEEN CONCRETE PANELS ON THE INTERIOR OF THE TANK TO DETERMINE IF CAULKING IS PRESENT. CONTRACTOR SHALL ALSO MAP LOCATIONS OF CAULK INSTALLATION, AND DETERMINE TOTAL LINEAR FEET OF JOINTS.

AECOM					
	REVISION	DATE	DESCRIPTION	BY	APPROVED
	<p align="center">DRAWING 2</p> <p align="center">PROTECTIVE COATING SYSTEM</p>				
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION Signature _____ Expiration Date of the License _____	DRAWN BY: _____ TRACED BY: _____ CHECKED BY: _____	F B C B	SHEET OF SHEETS		

Appendix A
Analytical Laboratory Data DOH and PUCI

Sample Point No. 428-004 Facility ID TP002Source Name: Princeville Wells 1 & 2 ChlorinatorSample Location: Tap After 411 ReservoirCl₂ Reading (if Chlorinated) 0.2 mg/LPrint Sampler Name Rollan A. YadaoSampler Signature [Signature]Date: October 2, 2012 Time: 8:15 AMCollection Remarks: clear

Relinquished by: <u>[Signature]</u>	Date/Time: <u>10/2/12 @ 8:40 AM</u>
Received by: <u>Beverly Furman</u>	Date/Time: <u>10/2/12 8:40 AM</u>
Relinquished by: <u>Beverly Furman</u>	Date/Time: <u>10/2/12 8:40 AM</u>
Received by:	Date/Time:
Delivered to Courier/Airport by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Lab by: <u>Fed Ex</u>	Date/Time: <u>10/3/12 5:00 PM</u>
Received for Lab by: <u>R. Sal.</u>	Date/Time: <u>10/3/12 5:00 PM</u>
Locked in Refrig. by: <u>R. Sal.</u>	Date/Time: <u>10/3/12 5:05 PM</u>
Removed from Refrig. by: <u>[Signature]</u>	Date/Time: <u>10/15/12 700A</u>

SDWB Administration Only	
<input type="checkbox"/> Copies Done	<input type="checkbox"/> Pos. Result
<input type="checkbox"/> Sent System	<input type="checkbox"/> Chem Pos.
<input type="checkbox"/> Sent NI Office	<input type="checkbox"/> Inor. Mon.
<input type="checkbox"/> Data Entered	<input type="checkbox"/> Violation
<input type="checkbox"/> SDWB Data	<input type="checkbox"/> Neg. Result
<input type="checkbox"/> GIS Data	<input type="checkbox"/> Reduce Mon.

Lab Comments

T = 5.6 °C RS 10/3/12

Reported By: <u>[Signature]</u>	Date: <u>10/16/12</u>
QA Check: <u>[Signature]</u>	Date: <u>10/16/12</u>
Forwarded by: <u>[Signature]</u>	Date: <u>10-16-12</u>

*** The result for Aroclor 1254 Screen is ND < 0.33 µg/L. Trace amounts of Aroclor 1254 may be present in the sample, the laboratory recommends sending a drinking water sample to a laboratory certified for EPA method 508A to quantitate the amount of PCBs as decachlorobiphenyl. RR 10/16/12

SAMPLE LAB NO.

C12-10-0019

Contaminants	MCL (µg/L)	ND (µg/L)	NQ (µg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohalides					
Hexachlorocyclopentadiene	50	<0.05			10/15/12
Hexachlorobenzene	1	<0.05			
Lindane	0.2	<0.02			
Heptachlor	0.4	<0.01			
Heptachlor epoxide	0.2	<0.01			
Endrin	2	<0.01			
Methoxychlor	40	<0.05			
Alachlor	2	<0.05			
Chlordane	2	<0.10	<0.30		
Toxaphene	3	<0.50	<1.5		
Aroclor 1016	**	<0.26			10/15/12
Aroclor 1221	**	<0.19			
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30			
Aroclor 1254	**	<0.33			
Aroclor 1260	**	<0.36			
* Simazine	4	<0.07			
* Atrazine	3	<0.05			
B Unregulated (Phase II)					
Metribuzin		<0.2			
Aldrin		<0.01			
Butachlor		<0.05			
Dieldrin		<0.01			
Metolachlor		<0.05			
Propachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable
 Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl
 * Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 µg/L. The listed detection limits are the concentration equivalent of 0.5 µg/L decachlorobiphenyl.



CALSCIENCE

WORK ORDER NUMBER: 12-10-1744

The difference is service



AIR :: SOIL :: WATER :: MARINE CHEMISTRY

Analytical Report For

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville / EPA 508A

Attention: Michael Loo
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Approved for release on 11/5/2012 by:
Don Burley
Project Manager

ResultLink ▶

Email your PM ▶



Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



Contents

Client Project Name: Princeville / EPA 508A

Work Order Number: 12-10-1744

1	Client Sample Data	3
1.1	EPA 508A (Aqueous)	3
2	Quality Control Sample Data	5
2.1	LCS/LCSD	5
3	Glossary of Terms and Qualifiers	6
4	Chain of Custody/Sample Receipt Form	7

Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Date Received: 10/25/12
Work Order No: 12-10-1744
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville / EPA 508A

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Well #1 Pre Chlor.	12-10-1744-1-A	10/24/12 08:00	Aqueous	GC 44	11/01/12	11/01/12 18:37	121101L06

Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Well #1 Post Chlor.	12-10-1744-2-A	10/24/12 08:05	Aqueous	GC 44	11/01/12	11/01/12 19:01	121101L06
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Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Well #2 Pre Chlor.	12-10-1744-3-A	10/23/12 13:48	Aqueous	GC 44	11/01/12	11/01/12 19:15	121101L06
---------------------------	-----------------------	-----------------------	----------------	--------------	-----------------	-----------------------	------------------

Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Well #2 Post Chlor.	12-10-1744-4-A	10/23/12 13:45	Aqueous	GC 44	11/01/12	11/01/12 19:30	121101L06
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Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

411 Sample Point #1	12-10-1744-5-A	10/23/12 13:32	Aqueous	GC 44	11/01/12	11/01/12 19:44	121101L06
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Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

411 Sample Point #2	12-10-1744-6-A	10/24/12 08:15	Aqueous	GC 44	11/01/12	11/01/12 19:59	121101L06
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Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Analytical Report



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Date Received: 10/25/12
Work Order No: 12-10-1744
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville / EPA 508A

Page 2 of 2

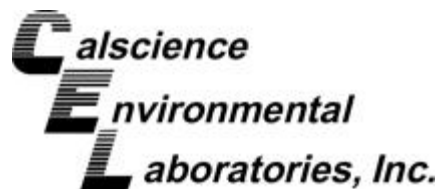
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Skim	12-10-1744-7-A	10/23/12 13:30	Aqueous	GC 44	11/01/12	11/02/12 11:44	121101L06

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Decachlorobiphenyl	18	2.5	10		ug/L

Method Blank	099-14-541-9	N/A	Aqueous	GC 44	11/01/12	11/01/12 20:27	121101L06
---------------------	---------------------	------------	----------------	--------------	-----------------	-----------------------	------------------

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Decachlorobiphenyl	ND	0.25	1		ug/L

Return to Contents



Quality Control - LCS/LCS Duplicate



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

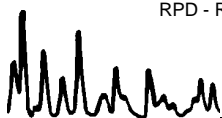
Date Received: N/A
Work Order No: 12-10-1744
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville / EPA 508A

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-541-9	Aqueous	GC 44	11/01/12	11/01/12	121101L06

Parameter	<u>SPIKE ADDED</u>	<u>LCS CONC</u>	<u>LCS %REC</u>	<u>LCSD CONC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Decachlorobiphenyl	0.6950	0.5583	80	0.5537	80	80-120	1	0-10	

RPD - Relative Percent Difference , CL - Control Limit



Glossary of Terms and Qualifiers

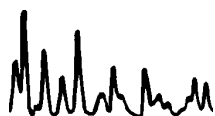


Work Order Number: 12-10-1744

Qualifier	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

MPN - Most Probable Number



WO # / LAB USE ONLY

12-10-1744

Date _____

Page of

[illegible]

DISTRIBUTION: White with final report, Green and Yellow to Client. Please note that pages 1 and 2 of 2 of our T/Cs are printed on the reverse side of this cover.

de of the Green and Yellow copies respectively.

[Return to Contents](#)

1744

From: (808) 826-6100
Michael Loo
Princeville Utilities Company,
5-3541 Kuhio Highway, Suite 221

Origin ID: LIHA

FedEx
Express

J12201209200325

Princeville, HI 96722

SHIP TO: (714) 895-5494

BILL SENDER

Bob Stearns
Calscience Environmental Lab.
7440 LINCOLN WAY

GARDEN GROVE, CA 92841

Ship Date: 24OCT12
ActWgt: 40.0 LB
CAD: 7665451/INET3300

Dims: 18 X 10 X 13 IN

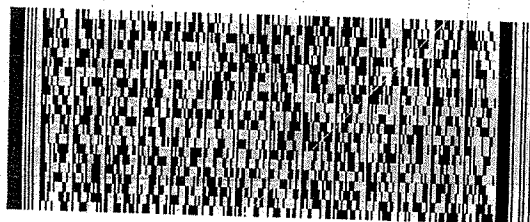
Delivery Address Bar Code



Ref #
Invoice #
PO #
Dept #

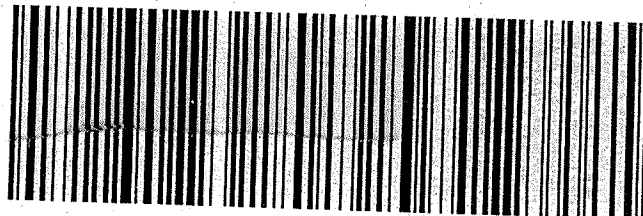
THU - 25 OCT A1
PRIORITY OVERNIGHT

TRK# 7939 1553 6134
0201

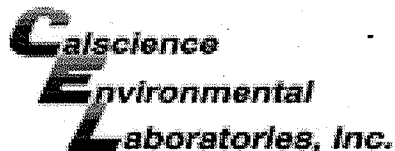


WZ APVA

92841
CA-US
SNA



515G19CCB/AA44



WORK ORDER #: 12-10-1744

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: PRINCEVILLE UTILITIES CO., INC.DATE: 10/25/12**TEMPERATURE:** Thermometer ID: SC4 (Criteria: 0.0 °C – 6.0 °C, not frozen)Temperature 3.7 °C - 0.3 °C (CF) = 3.4 °C ☐ Blank ☒ Sample☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.☐ Received at ambient temperature, placed on ice for transport by Courier.Ambient Temperature: ☐ Air ☐ FilterInitial: JS**CUSTODY SEALS INTACT:**☐ Cooler ☐ _____ ☐ No (Not Intact) ☒ Not Present ☐ N/AInitial: JS☐ Sample ☐ _____ ☐ No (Not Intact) ☒ Not PresentInitial: JS**SAMPLE CONDITION:**

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
<input checked="" type="checkbox"/> No analysis requested. <input type="checkbox"/> Not relinquished. <input type="checkbox"/> No date/time relinquished.			
Sampler's name indicated on COC.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers and sufficient volume for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analyses received within holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours...	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper preservation noted on COC or sample container.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE:Solid: ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (____) ☐ EnCores® ☐ TerraCores® ☐ _____Water: ☐ VOA ☐ VOAh ☐ VOAna₂ ☐ 125AGB ☐ 125AGBh ☐ 125AGBp ☒ 1AGB ☐ 1AGBna₂ ☐ 1AGBs☐ 500AGB ☐ 500AGJ ☐ 500AGJs ☐ 250AGB ☐ 250CGB ☐ 250CGBs ☐ 1PB ☐ 1PBna ☐ 500PB☐ 250PB ☐ 250PBn ☐ 125PB ☐ 125PBznn ☐ 100PJ ☐ 100PJna₂ ☐ _____ ☐ _____ ☐ _____Air: ☐ Tedlar® ☐ Canister Other: ☐ _____ Trip Blank Lot#: _____ Labeled/Checked by: JSContainer: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: JSPreservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure znna: ZnAc₂+NaOH f: Filtered Scanned by: JS

Sample Point No. 428-005SM 004 Facility IDSource Name: Princetonville Bell 4 Chlorinated PrincetonvilleSample Location: Tap After 380A Reservoir SA Tap After 411 ReservoirCl₂ Reading (if Chlorinated) 0.2 mg/LPrint Sampler Name Chris MatsidaSampler Signature [Signature]Date: 11/14/12 Time: 9:20Collection Remarks: Duplicate taken

Relinquished by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Courier/Airport by: <u>[Signature]</u>	Date/Time: <u>11/14/12 11:30</u>
Received by: <u>[Signature]</u>	Date/Time: <u>11/15/12 9:54 am</u>
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Lab by: <u>[Signature]</u>	Date/Time: <u>11/15/12 10:15 am</u>
Received for Lab by: <u>Paula</u>	Date/Time: <u>11/15/12 10:15 am</u>
Locked in Refrig. by:	Date/Time:
Removed from Refrig. by:	Date/Time:

SDWB Administration Only

☐ Copies Done ☐ Pos. Result
☐ Sent System ☐ Chem Pos.
☐ Sent NI Office ☐ Inor. Mon.
☐ Data Entered ☐ Violation
☐ SDWB Data ☐ Neg. Result
☐ GIS Data ☐ Reduce Mon.

Lab Comments

T = 10°C

Reported By: <u>Paula</u>	Date: <u>11/16/12</u>
QA Check: <u>[Signature]</u>	Date: <u>11/16/12</u>
Forwarded by: <u>[Signature]</u>	Date: <u>11-16-12</u>

SAMPLE LAB NO.

C12-11-0036

Contaminants	MCL (µg/L)	ND (µg/L)	NQ (µg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohalides					
Hexachlorocyclopentadiene	50	<0.05			<u>11/15/12</u> ³⁸
Hexachlorobenzene	1	<0.05			
Lindane	0.2	<0.02			
Heptachlor	0.4	<0.01			
Heptachlor epoxide	0.2	<0.01			
Endrin	2	<0.01			
Methoxychlor	40	<0.05			
Alachlor	2	<0.05			
Chlordane	2	<0.10	<0.30		
Toxaphene	3	<0.50	<1.5		
Aroclor 1016	**	<0.26			<u>11/15/12</u>
Aroclor 1221	**	<0.19			
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30			
Aroclor 1254	**	<0.33			
Aroclor 1260	**	<0.36			
* Simazine	4	<0.07			
* Atrazine	3	<0.05			
B Unregulated (Phase II)					
Metribuzin		<0.2			
Aldrin		<0.01			
Butachlor		<0.05			
Dieldrin		<0.01			
Metolachlor		<0.05			
Propachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable
 Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl
 * Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 µg/L. The listed detection limits are the concentration equivalent of 0.5 µg/L decachlorobiphenyl.

Sample Point No. _____ Facility ID _____
 Source Name: Princetonville
 Sample Location: Makai Club Cottage
 Cl₂ Reading (if Chlorinated) _____ mg/L
 Print Sampler Name Steven Madsen
 Sampler Signature [Signature]
 Date: 11/14/12 Time: 9:50
 Collection Remarks: Special Sampling

Relinquished by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Courier/Airport by: <u>[Signature]</u>	Date/Time: <u>11/14/12 11:30</u>
Received by: <u>[Signature]</u>	Date/Time: <u>11/15/12 9:54 am</u>
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Lab by: <u>[Signature]</u>	Date/Time: <u>11/15/12 10:15 am</u>
Received for Lab by: <u>Pato Paul</u>	Date/Time: <u>11/15/12 10:15A</u>
Locked in Refrig. by:	Date/Time:
Removed from Refrig. by:	Date/Time:

SDWB Administration Only
 Copies Done _____ Pos. Result _____
 Sent System _____ Chem Pos. _____
 Sent NI Office _____ Inor. Mon. _____
 Data Entered _____ Violation _____
 SDWB Data _____ Neg. Result _____
 GIS Data _____ Reduce Mon. _____

Lab Comments

T = 1.0°C

Reported By: <u>Pato Paul</u>	Date: <u>11/16/12</u>
QA Check: <u>[Signature]</u>	Date: <u>11/16/12</u>
Forwarded by: <u>[Signature]</u>	Date: <u>11-16-12</u>

SAMPLE LAB NO.

C12-11-0037

Contaminants	MCL (µg/L)	ND (µg/L)	NQ (µg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohalides					
Hexachlorocyclopentadiene	50	<0.05			<u>11/15/12</u> <u>PR</u>
Hexachlorobenzene	1	<0.05			
Lindane	0.2	<0.02			
Heptachlor	0.4	<0.01			
Heptachlor epoxide	0.2	<0.01			
Endrin	2	<0.01			
Methoxychlor	40	<0.05			
Alachlor	2	<0.05			
Chlordane	2	<0.10	<0.30		
Toxaphene	3	<0.50	<1.5		
Aroclor 1016	**	<0.26			<u>11/15/12</u>
Aroclor 1221	**	<0.19			
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30			
Aroclor 1254	**	<0.33			
Aroclor 1260	**	<0.36			
* Simazine	4	<0.07			
* Atrazine	3	<0.05			
B Unregulated (Phase II)					
Metribuzin		<0.2			
Aldrin		<0.01			
Butachlor		<0.05			
Dieldrin		<0.01			
Metolachlor		<0.05			
Propachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable
 Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl
 * Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 ug/L. The listed detection limits are the concentration equivalent of 0.5 ug/L decachlorobiphenyl.

Sample Point No. 428-901 Facility ID _____
 Source Name: Princetonville
 Sample Location: St. Regis Hotel Pool Deck
 Cl₂ Reading (if Chlorinated) 0.2 mg/L
 Print Sampler Name Steven M. K. B. B. B.
 Sampler Signature [Signature]
 Date: 11/14/12 Time: 10:15
 Collection/Remarks: _____

SAMPLE LAB NO.
C12-11-0038

Relinquished by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Courier/Airport by: <u>[Signature]</u>	Date/Time: <u>11/14/12 11:30</u>
Received by: <u>[Signature]</u>	Date/Time: <u>11/15/12 9:54 AM</u>
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Lab by: <u>[Signature]</u>	Date/Time: <u>11/15/12 10:15 AM</u>
Received for Lab by: <u>[Signature]</u>	Date/Time: <u>11/15/12 10:15 AM</u>
Locked in Refrig. by:	Date/Time:
Removed from Refrig. by:	Date/Time:

SDWB Administration Only
☐ Copies Done ☐ Pos. Result
☐ Sent System ☐ Chem Pos.
☐ Sent NI Office ☐ Inor. Mon.
☐ Data Entered ☐ Violation
☐ SDWB Data ☐ Neg. Result
☐ GIS Data ☐ Reduce Mon.

Lab Comments
T = 1.0°C

Reported By: [Signature] Date 11/16/12
 QA Check: [Signature] Date 11/16/12
 Forwarded by: [Signature] Date 11-16-12

Contaminants	MCL (µg/L)	ND (µg/L)	NQ (µg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohalides					
Hexachlorocyclopentadiene	50	<0.05			
Hexachlorobenzene	1	<0.05			
Lindane	0.2	<0.02			
Heptachlor	0.4	<0.01			
Heptachlor epoxide	0.2	<0.01			
Endrin	2	<0.01			
Methoxychlor	40	<0.05			
Alachlor	2	<0.05			
Chlordane	2	<0.10	<0.30		
Toxaphene	3	<0.50	<1.5		
Aroclor 1016	**	<0.26			11/15/12
Aroclor 1221	**	<0.19			
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30			
Aroclor 1254	**	<0.33			
Aroclor 1260	**	<0.36			
* Simazine	4	<0.07			
* Atrazine	3	<0.05			
B Unregulated (Phase II)					
Metribuzin		<0.2			
Aldrin		<0.01			
Butachlor		<0.05			
Dieldrin		<0.01			
Metolachlor		<0.05			
Propachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable
 Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl
 * Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 µg/L. The listed detection limits are the concentration equivalent of 0.5 µg/L decachlorobiphenyl.

Sample Point No. 428-004 Facility ID _____
 Source Name: Princeville
 Sample Location: Tap After Hill Reservoir
 Cl₂ Reading (if Chlorinated) 0.20 mg/L
 Print Sampler Name Steve Matsuda
 Sampler Signature [Signature]
 Date: 11/19/12 Time: 9:35
 Collection Remarks: Duplicate Taken

SAMPLE LAB NO.
C12-11-0050

Relinquished by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Courier/Airport by:	Date/Time: <u>11/19/12 11:50</u>
Received by:	Date/Time: <u>11/20/12 8:30</u>
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Lab by:	Date/Time: <u>11/20/12 8:50</u>
Received for Lab by:	Date/Time: <u>11/20/12 8:50A</u>
Locked in Refrig. by:	Date/Time:
Removed from Refrig. by:	Date/Time:

SDWB Administration Only
 Copies Done _____ Pos. Result _____
 Sent System _____ Chem Pos. _____
 Sent NI Office _____ Inor. Mon. _____
 Data Entered _____ Violation _____
 SDWB Data _____ Neg. Result _____
 GIS Data _____ Reduce Mon. _____

Lab Comments

Reported By: Pat Pin Date: 11/21/12
 QA Check: [Signature] Date: 11/21/12
 Forwarded by: [Signature] Date: 11-21-12

Contaminants	MCL (µg/L)	ND (µg/L)	NQ (µg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohalides					
Hexachlorocyclopentadiene	50	<0.05			
Hexachlorobenzene	1	<0.05			
Lindane	0.2	<0.02			
Heptachlor	0.4	<0.01			
Heptachlor epoxide	0.2	<0.01			
Endrin	2	<0.01			
Methoxychlor	40	<0.05			
Alachlor	2	<0.05			
Chlordane	2	<0.10	<0.30		
Toxaphene	3	<0.50	<1.5		
Aroclor 1016	**	<0.26			11/21/12
Aroclor 1221	**	<0.19			
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30			
Aroclor 1254	**	<0.33			
Aroclor 1260	**	<0.36			
* Simazine	4	<0.07			
* Atrazine	3	<0.05			
B Unregulated (Phase II)					
Metribuzin		<0.2			
Aldrin		<0.01			
Butachlor		<0.05			
Dieldrin		<0.01			
Metolachlor		<0.05			
Propachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable
 Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl
 * Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 µg/L. The listed detection limits are the concentration equivalent of 0.5 µg/L decachlorobiphenyl.

Sample Point No. _____ Facility ID _____
 Source Name: Princeton
 Sample Location: Makal Cottage
 Cl₂ Reading (if Chlorinated) 0.20 mg/L
 Print Sampler Name Steven M. K. S. S.
 Sampler Signature [Signature]
 Date: 11/19/12 Time: 9:55
 Collection Remarks: _____

SAMPLE LAB NO.
C12-11-0051

Relinquished by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Courier/Airport by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Lab by:	Date/Time:
Received for Lab by:	Date/Time:
Locked in Refrig. by:	Date/Time:
Removed from Refrig. by:	Date/Time:

SDWB Administration Only
 Copies Done _____ Pos. Result _____
 Sent System _____ Chem Pos. _____
 Sent NI Office _____ Inor. Mon. _____
 Data Entered _____ Violation _____
 SDWB Data _____ Neg. Result _____
 GIS Data _____ Reduce Mon. _____

Lab Comments

Reported By: <u>[Signature]</u>	Date: <u>11/21/12</u>
QA Check: <u>[Signature]</u>	Date: <u>11/21/12</u>
Forwarded by: <u>[Signature]</u>	Date: <u>11-21-12</u>

Contaminants	MCL (µg/L)	ND (µg/L)	NQ (µg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohalides					
Hexachlorocyclopentadiene	50	<0.05			
Hexachlorobenzene	1	<0.05			
Lindane	0.2	<0.02			
Heptachlor	0.4	<0.01			
Heptachlor epoxide	0.2	<0.01			
Endrin	2	<0.01			
Methoxychlor	40	<0.05			
Alachlor	2	<0.05			
Chlordane	2	<0.10	<0.30		
Toxaphene	3	<0.50	<1.5		
Aroclor 1016	**	<0.26			11/21/12
Aroclor 1221	**	<0.19			
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30			
Aroclor 1254	**	<0.33			
Aroclor 1260	**	<0.36			
* Simazine	4	<0.07			
* Atrazine	3	<0.05			
B Unregulated (Phase II)					
Metribuzin		<0.2			
Aldrin		<0.01			
Butachlor		<0.05			
Dieldrin		<0.01			
Metolachlor		<0.05			
Propachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable
 Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl
 * Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 ug/L. The listed detection limits are the concentration equivalent of 0.5 ug/L decachlorobiphenyl.

Sample Point No. 428-901 Facility ID _____
 Source Name: Princetonville
 Sample Location: Sf Regis Hotel, Pool Deck
 Cl₂ Reading (if Chlorinated) 0.20 mg/L
 Print Sampler Name Steven Matsuda
 Sampler Signature [Signature]
 Date: 11/19/12 Time: 10:15
 Collection Remarks: _____

Relinquished by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Courier/Airport by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Lab by:	Date/Time:
Received for Lab by:	Date/Time:
Locked in Refrig. by:	Date/Time:
Removed from Refrig. by:	Date/Time:

SDWB Administration Only

<input type="checkbox"/> Copies Done	<input type="checkbox"/> Pos. Result
<input type="checkbox"/> Sent System	<input type="checkbox"/> Chem Pos.
<input type="checkbox"/> Sent NI Office	<input type="checkbox"/> Inor. Mon.
<input type="checkbox"/> Data Entered	<input type="checkbox"/> Violation
<input type="checkbox"/> SDWB Data	<input type="checkbox"/> Neg. Result
<input type="checkbox"/> GIS Data	<input type="checkbox"/> Reduce Mon.

Lab Comments

Reported By: <u>[Signature]</u>	Date: <u>11/21/12</u>
QA Check: <u>[Signature]</u>	Date: <u>11/21/12</u>
Forwarded by: <u>[Signature]</u>	Date: <u>11-21-12</u>

SAMPLE LAB NO.

C12-11-0052

Contaminants	MCL (µg/L)	ND (µg/L)	NQ (µg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohalides					
Hexachlorocyclopentadiene	50	<0.05			
Hexachlorobenzene	1	<0.05			
Lindane	0.2	<0.02			
Heptachlor	0.4	<0.01			
Heptachlor epoxide	0.2	<0.01			
Endrin	2	<0.01			
Methoxychlor	40	<0.05			
Alachlor	2	<0.05			
Chlordane	2	<0.10	<0.30		
Toxaphene	3	<0.50	<1.5		
Aroclor 1016	**	<0.26			11/21/12
Aroclor 1221	**	<0.19			
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30			
Aroclor 1254	**	<0.33			
Aroclor 1260	**	<0.36			
* Simazine	4	<0.07			
* Atrazine	3	<0.05			
B Unregulated (Phase II)					
Metribuzin		<0.2			
Aldrin		<0.01			
Butachlor		<0.05			
Dieldrin		<0.01			
Metolachlor		<0.05			
Propachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable
 Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl
 * Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 µg/L. The listed detection limits are the concentration equivalent of 0.5 µg/L decachlorobiphenyl.



CALSCIENCE

WORK ORDER NUMBER: 12-11-1514

The difference is service



AIR :: SOIL :: WATER :: MARINE CHEMISTRY

Analytical Report For

Client: Princeville Utilities Company, Inc.

Client Project Name: PCBs

Attention: Michael Loo
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Approved for release on 11/30/2012 by:
Don Burley
Project Manager

ResultLink ▶

Email your PM ▶



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Work Order Number: 12-11-1514

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Analytical Report



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Date Received: 11/21/12
Work Order No: 12-11-1514
Preparation: EPA 508A
Method: EPA 508A

Project: PCBs

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Water (tap at 411 tank)	12-11-1514-4-A	11/20/12 10:39	Aqueous	GC 44	11/28/12	11/30/12 14:59	121128L03

Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Water (Makai Club)	12-11-1514-5-A	11/20/12 10:00	Aqueous	GC 44	11/28/12	11/30/12 15:13	121128L03
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Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Water (St. Regis Pool)	12-11-1514-6-A	11/20/12 09:42	Aqueous	GC 44	11/28/12	11/30/12 15:28	121128L03
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Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Method Blank	099-14-541-10	N/A	Aqueous	GC 44	11/28/12	11/30/12 14:45	121128L03
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Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Return to Contents

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Date Received: 11/21/12
Work Order No: 12-11-1514
Preparation: EPA 3580A
Method: EPA 8082
Units: ug/kg

Project: PCBs

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Old Pre lube	12-11-1514-1-A	11/20/12 09:37	Oil	GC 58	11/26/12	11/28/12 15:01	121126L05

Comment(s): -Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Aroclor-1016	ND	1000	290	1		Aroclor-1248	ND	1000	290	1	
Aroclor-1221	ND	1000	260	1		Aroclor-1254	ND	1000	240	1	
Aroclor-1232	ND	1000	210	1		Aroclor-1260	ND	1000	230	1	
Aroclor-1242	ND	1000	250	1		Aroclor-1262	ND	1000	250	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	50	50-130		2,4,5,6-Tetrachloro-m-Xylene	99	50-130	

Current Pre-lube	12-11-1514-2-A	11/20/12 10:31	Oil	GC 58	11/26/12	11/28/12 15:19	121126L05
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Comment(s): -Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Aroclor-1016	ND	1000	290	1		Aroclor-1248	ND	1000	290	1	
Aroclor-1221	ND	1000	260	1		Aroclor-1254	ND	1000	240	1	
Aroclor-1232	ND	1000	210	1		Aroclor-1260	ND	1000	230	1	
Aroclor-1242	ND	1000	250	1		Aroclor-1262	ND	1000	250	1	

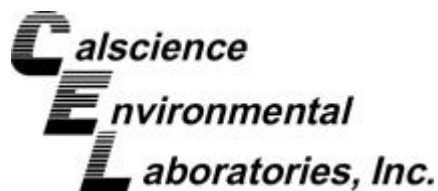
Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	62	50-130		2,4,5,6-Tetrachloro-m-Xylene	100	50-130	

Method Blank	096-01-013-553	N/A	Solid	GC 58	11/26/12	11/28/12 14:07	121126L05
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Comment(s): -Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Aroclor-1016	ND	1000	290	1		Aroclor-1248	ND	1000	290	1	
Aroclor-1221	ND	1000	260	1		Aroclor-1254	ND	1000	240	1	
Aroclor-1232	ND	1000	210	1		Aroclor-1260	ND	1000	230	1	
Aroclor-1242	ND	1000	250	1		Aroclor-1262	ND	1000	250	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	122	50-130		2,4,5,6-Tetrachloro-m-Xylene	121	50-130	



Analytical Report



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Date Received: 11/21/12
Work Order No: 12-11-1514
Preparation: EPA 3510C
Method: EPA 8082
Units: ug/L

Project: PCBs

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Skim Sample	12-11-1514-3-A	11/20/12 10:49	Aqueous	GC 58	11/26/12	11/27/12 17:46	121126L03

Comment(s): -Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Aroclor-1016	ND	1.0	0.29	1		Aroclor-1248	ND	1.0	0.20	1	
Aroclor-1221	ND	1.0	0.28	1		Aroclor-1254	ND	1.0	0.23	1	
Aroclor-1232	ND	1.0	0.25	1		Aroclor-1260	0.99	1.0	0.26	1	J
Aroclor-1242	ND	1.0	0.18	1		Aroclor-1262	ND	1.0	0.26	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	109	50-135		2,4,5,6-Tetrachloro-m-Xylene	91	50-135	

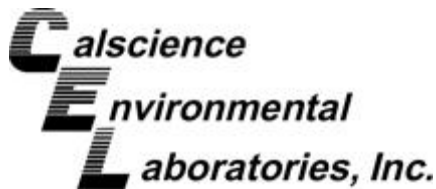
Method Blank	099-12-533-712	N/A	Aqueous	GC 58	11/26/12	11/27/12 17:29	121126L03
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Comment(s): -Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Aroclor-1016	ND	1.0	0.29	1		Aroclor-1248	ND	1.0	0.20	1	
Aroclor-1221	ND	1.0	0.28	1		Aroclor-1254	ND	1.0	0.23	1	
Aroclor-1232	ND	1.0	0.25	1		Aroclor-1260	ND	1.0	0.26	1	
Aroclor-1242	ND	1.0	0.18	1		Aroclor-1262	ND	1.0	0.26	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	109	50-135		2,4,5,6-Tetrachloro-m-Xylene	98	50-135	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Quality Control - Spike/Spike Duplicate



Princeville Utilities Company, Inc.
 5-3541 Kuhio Highway, Ste. 221
 Princeville, HI 96722-5564

Date Received: 11/21/12
 Work Order No: 12-11-1514
 Preparation: EPA 3580A
 Method: EPA 8082

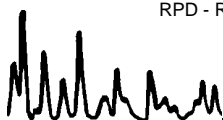
Project PCBs

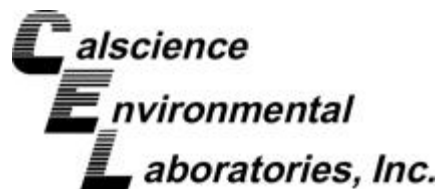
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
Current Pre-lube	Oil	GC 58	11/26/12	11/28/12	121126S05

Parameter	SAMPLE CONC	SPIKE ADDED	MS CONC	MS %REC	MSD CONC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Aroclor-1016	ND	2000	1910	96	1650	82	50-135	15	0-25	
Aroclor-1260	ND	2000	1650	82	1670	84	50-135	1	0-25	

↑
 Return to Contents

RPD - Relative Percent Difference , CL - Control Limit





Quality Control - LCS/LCS Duplicate



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

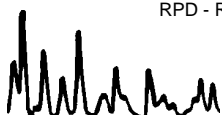
Date Received: N/A
Work Order No: 12-11-1514
Preparation: EPA 3580A
Method: EPA 8082

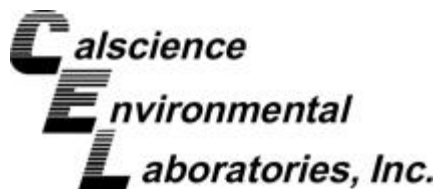
Project: PCBs

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
096-01-013-553	Solid	GC 58	11/26/12	11/28/12	121126L05

Parameter	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Aroclor-1016	2000	2070	104	2180	109	50-135	5	0-25	
Aroclor-1260	2000	2460	123	2660	133	50-135	8	0-25	

RPD - Relative Percent Difference , CL - Control Limit





Quality Control - LCS/LCS Duplicate



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

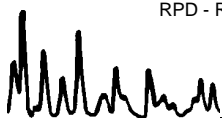
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Work Order No: 12-11-1514
Preparation: EPA 3510C
Method: EPA 8082

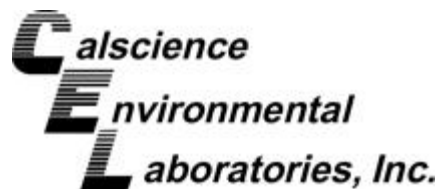
Project: PCBs

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-533-712	Aqueous	GC 58	11/26/12	11/27/12	121126L03

Parameter	<u>SPIKE ADDED</u>	<u>LCS CONC</u>	<u>LCS %REC</u>	<u>LCSD CONC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Aroclor-1016	2.000	1.800	90	1.820	91	50-135	1	0-25	
Aroclor-1260	2.000	2.260	113	2.110	106	50-135	7	0-25	

RPD - Relative Percent Difference , CL - Control Limit





Quality Control - LCS/LCS Duplicate



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

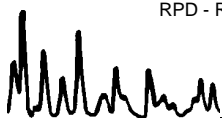
Date Received: N/A
Work Order No: 12-11-1514
Preparation: EPA 508A
Method: EPA 508A

Project: PCBs

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-541-10	Aqueous	GC 44	11/28/12	11/30/12	121128L03

Parameter	<u>SPIKE ADDED</u>	<u>LCS CONC</u>	<u>LCS %REC</u>	<u>LCSD CONC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Decachlorobiphenyl	0.6950	0.5763	83	0.5799	83	80-120	1	0-10	

RPD - Relative Percent Difference , CL - Control Limit



Glossary of Terms and Qualifiers

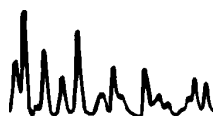


Work Order Number: 12-11-1514

Qualifier	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

MPN - Most Probable Number



12-11-1514

DATE:

PAGE: OF

CHAIN OF CUSTODY RECORD

[illegible]

1514

From: (808) 826-6100
Michael Loo
Princeville Utilities Company,
5-3541 Kuhio Highway, Suite 221

Origin ID: LIHA

FedEx
Express

J12201208200325

SHIP TO: (714) 895-5494

BILL SENDER

Don Burley
CalScience Environmental Lab.
7440 LINCOLN WAY

GARDEN GROVE, CA 92841

Ship Date: 20NOV12
ActWgt: 25.0 LB
CAD: 7665451/INET3300

Dims: 14 X 10 X 16 IN

Delivery Address Bar Code

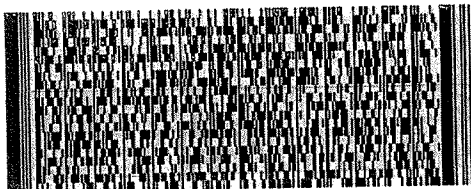


Ref #
Invoice #
PO #
Dept #

WED - 21 NOV A1
PRIORITY OVERNIGHT

TRK# 7941 2037 7176

0201

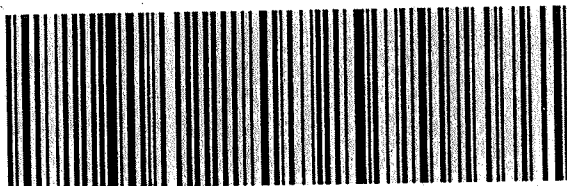


WZ APVA

92841

CA-US

SNA



515G3/EE3B/AA44

WORK ORDER #: 12-11-☒ ☒ ☒ ☒**SAMPLE RECEIPT FORM**Cooler 1 of 1CLIENT: Princeville UtilitiesDATE: 11/21/12**TEMPERATURE:** Thermometer ID: SC4 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)Temperature 4.4 °C - 0.3 °C (CF) = 4.1 °C ☒ Blank ☐ Sample☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.☐ Received at ambient temperature, placed on ice for transport by Courier.Ambient Temperature: ☐ Air ☐ FilterInitial: [Signature]**CUSTODY SEALS INTACT:**☐ Cooler ☐ _____ ☐ No (Not Intact) ☒ Not Present ☐ N/AInitial: [Signature]☐ Sample ☐ _____ ☐ No (Not Intact) ☒ Not Present

Initial: _____

SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Collection <u>date/time</u> , matrix, and/or # of containers logged in based on sample labels.			
<input type="checkbox"/> No analysis requested. <input type="checkbox"/> Not relinquished. <input checked="" type="checkbox"/> No <u>date/time</u> relinquished.			
Sampler's name indicated on COC.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers and sufficient volume for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analyses received within holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours...	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper preservation noted on COC or sample container.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE:Solid: ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (____) ☐ EnCores® ☐ TerraCores® ☐ _____Water: ☐ VOA ☐ VOAh ☐ VOAna₂ ☐ 125AGB ☐ 125AGBh ☐ 125AGBp ☒ 1AGB ☐ 1AGBna₂ ☐ 1AGBs☐ 500AGB ☐ 500AGJ ☐ 500AGJs ☐ 250AGB ☐ 250CGB ☐ 250CGBs ☐ 1PB ☐ 1PBna ☐ 500PB☐ 250PB ☐ 250PBn ☐ 125PB ☐ 125PBz_{na} ☐ 100PJ ☐ 100PJna₂ ☐ _____ ☐ _____ ☐ _____Air: ☐ Tedlar® ☐ Canister Other: ☒ (1) (2) 1AGB Trip Blank Lot#: _____ Labeled/Checked by: [Signature]Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: [Signature]Preservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure z_{na}: ZnAc₂+NaOH f: Filtered Scanned by: [Signature]

WORK ORDER #: 12-11-7514

SAMPLE ANOMALY FORM

SAMPLES - CONTAINERS & LABELS:

- ☐ Sample(s) NOT RECEIVED but listed on COC
☐ Sample(s) received but NOT LISTED on COC
☐ Holding time expired – list sample ID(s) and test
☐ Insufficient quantities for analysis – list test
☐ Improper container(s) used – list test
☐ Improper preservative used – list test
☐ No preservative noted on COC or label – list test & notify lab
☐ Sample labels illegible – note test/container type
☒ Sample label(s) do not match COC – Note in comments
- ☒ Sample ID
☐ Date and/or Time Collected
☐ Project Information
☐ # of Container(s)
☐ Analysis
- ☐ Sample container(s) compromised – Note in comments
 - ☐ Water present in sample container
 - ☐ Broken
- ☐ Sample container(s) not labeled
- ☐ Air sample container(s) compromised – Note in comments
 - ☐ Flat
 - ☐ Very low in volume
 - ☐ Leaking (Not transferred - duplicate bag submitted)
 - ☐ Leaking (transferred into Calscience Tedlar® Bag*)
 - ☐ Leaking (transferred into Client's Tedlar® Bag*)
- ☒ Other: _____

Comments:

(-2) Labeled as Well #1
new Prelube
11/20/12 @ 10:31

(-5) Labeled as MLL Tennis
Courts 11/20/12 @ 10:00

Collection date & time
per labels

(-1) 11/20/12 @ 9:37
 (-2) " @ 10:31
 (-3) " @ 10:49
 (-4) " @ 10:39
 (-5) " @ 10:00
 (-6) " @ 9:42

HEADSPACE – Containers with Bubble > 6mm or ¼ inch:

Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Cont. received	Analysis

Comments: _____

*Transferred at Client's request.

Initial / Date: D.L. 11/21/12

Sample Point No. 428-004 Facility ID _____
 Source Name: Princetonville
 Sample Location: Tap after 411 base door
 Cl₂ Reading (if Chlorinated) 6.2 mg/L
 Print Sampler Name Stefan Matsuda
 Sampler Signature [Signature]
 Date: 11/27/12 Time: 9:27
 Collection Remarks: Duplicate Taken

SAMPLE LAB NO.
C12-11-0062

Relinquished by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Courier/Airport by: <u>[Signature]</u>	Date/Time: <u>11/27/12 12:00</u>
Received by: <u>David Kawahara</u>	Date/Time: <u>11/29/12 8:50</u>
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Lab by: <u>David Kawahara</u>	Date/Time: <u>11/29/12 9:20</u>
Received for Lab by: <u>Pat Pin</u>	Date/Time: <u>11/29/12 9:20</u>
Locked in Refrig. by:	Date/Time:
Removed from Refrig. by:	Date/Time:

SDWB Administration Only
☐ Copies Done ☐ Pos. Result
☐ Sent System ☐ Chem Pos.
☐ Sent NJ Office ☐ Inor. Mon.
☐ Data Entered ☐ Violation
☐ SDWB Data ☐ Neg. Result
☐ GIS Data ☐ Reduce Mon.

Lab Comments
T = 1.8°C

Reported By: <u>[Signature]</u>	Date: <u>11/29/12</u>
QA Check: <u>[Signature]</u>	Date: <u>11/30/12</u>
Forwarded by: <u>[Signature]</u>	Date: <u>12-3-12</u>

Contaminants		MCL (µg/L)	ND (µg/L)	NQ (µg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohalides						
	Hexachlorocyclo- pentadiene	50	<0.05			
	Hexachlorobenzene	1	<0.05			
	Lindane	0.2	<0.02			
	Heptachlor	0.4	<0.01			
	Heptachlor epoxide	0.2	<0.01			
	Endrin	2	<0.01			
	Methoxychlor	40	<0.05			
	Alachlor	2	<0.05			
	Chlordane	2	<0.10	<0.30		
	Toxaphene	3	<0.50	<1.5		
	Aroclor 1016	**	<0.26			11/29/12 ↓
	Aroclor 1221	**	<0.19			
	Aroclor 1232	**	<0.23			
	Aroclor 1242	**	<0.26			
	Aroclor 1248	**	<0.30			
	Aroclor 1254	**	<0.33			
	Aroclor 1260	**	<0.36			
	* Simazine	4	<0.07			
	* Atrazine	3	<0.05			
B Unregulated (Phase II)						
	Metribuzin		<0.2			
	Aldrin		<0.01			
	Butachlor		<0.05			
	Dieldrin		<0.01			
	Metolachlor		<0.05			
	Propachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable
 Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl
 * Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 µg/L. The listed detection limits are the concentration equivalent of 0.5 µg/L decachlorobiphenyl).

Sample Point No. Hyk91, Cofh9 Facility ID _____

Source Name: Procedville

Sample Location: _____

Cl₂ Reading (if Chlorinated) 0.2 mg/L

Print Sampler Name Steve Matsuda

Sampler Signature [Signature]

Date: 11/27/12 Time: 9:54

Collection Remarks: _____

Relinquished by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Courier/Airport by:	Date/Time: <u>11/27/12 12:00</u>
Received by:	Date/Time: <u>11/29/12 850</u>
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Lab by:	Date/Time: <u>11/29/12 920</u>
Received for Lab by:	Date/Time: <u>11/29/12 920</u>
Locked in Refrig. by:	Date/Time:
Removed from Refrig. by:	Date/Time:

SDWB Administration Only	
<input type="checkbox"/> Copies Done	<input type="checkbox"/> Pos. Result
<input type="checkbox"/> Sent System	<input type="checkbox"/> Chem Pos.
<input type="checkbox"/> Sent NI Office	<input type="checkbox"/> Inor. Mon.
<input type="checkbox"/> Data Entered	<input type="checkbox"/> Violation
<input type="checkbox"/> SDWB Data	<input type="checkbox"/> Neg. Result
<input type="checkbox"/> GIS Data	<input type="checkbox"/> Reduce Mon.

Lab Comments

T = 1.8°C

Reported By: <u>[Signature]</u>	Date: <u>11/29/12</u>
QA Check: <u>[Signature]</u>	Date: <u>11/30/12</u>
Forwarded by: <u>[Signature]</u>	Date: <u>12-3-12</u>

SAMPLE LAB NO.

C12-11-0063

Contaminants		MCL (µg/L)	ND (µg/L)	NQ (µg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohalides						
	Hexachlorocyclo- pentadiene	50	<0.05			
	Hexachlorobenzene	1	<0.05			
	Lindane	0.2	<0.02			
	Heptachlor	0.4	<0.01			
	Heptachlor epoxide	0.2	<0.01			
	Endrin	2	<0.01			
	Methoxychlor	40	<0.05			
	Alachlor	2	<0.05			
	Chlordane	2	<0.10	<0.30		
	Toxaphene	3	<0.50	<1.5		
	Aroclor 1016	**	<0.26			11/29/12 ↓
	Aroclor 1221	**	<0.19			
	Aroclor 1232	**	<0.23			
	Aroclor 1242	**	<0.26			
	Aroclor 1248	**	<0.30			
	Aroclor 1254	**	<0.33			
	Aroclor 1260	**	<0.36			
	* Simazine	4	<0.07			
	* Atrazine	3	<0.05			
B Unregulated (Phase II)						
	Metribuzin		<0.2			
	Aldrin		<0.01			
	Butachlor		<0.05			
	Dieldrin		<0.01			
	Metolachlor		<0.05			
	Propachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable
Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl
* Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 ug/L. The listed detection limits are the concentration equivalent of 0.5 ug/L decachlorobiphenyl).

Sample Point No. 428-901 Facility ID _____
Source Name: Princeton
Sample Location: St Regis
Cl₂ Reading (if Chlorinated) 0.2 mg/L
Print Sampler Name Steve Matsdy
Sampler Signature [Signature]
Date: 11/27/12 Time: 10:10
Collection Remarks: _____

SAMPLE LAB NO.

C12-11-0064

Relinquished by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Courier/Airport by:	Date/Time: <u>11/27/12 12:00</u>
Received by:	Date/Time: <u>11/29/12 8:50</u>
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Lab by:	Date/Time: <u>11/29/12 9:20</u>
Received for Lab by:	Date/Time: <u>11/29/12 9:20</u>
Locked in Refrig. by:	Date/Time:
Removed from Refrig. by:	Date/Time:

SDWB Administration Only

☐ Copies Done ☐ Pos. Result
☐ Sent System ☐ Chem Pos.
☐ Sent NI Office ☐ Inor. Mon.
☐ Data Entered ☐ Violation
☐ SDWB Data ☐ Neg. Result
☐ GIS Data ☐ Reduce Mon.

Lab Comments

T = 1.8°C

Reported By: <u>[Signature]</u>	Date <u>11/29/12</u>
QA Check: <u>[Signature]</u>	Date <u>11/30/12</u>
Forwarded by: <u>[Signature]</u>	Date <u>12-3-12</u>

Contaminants	MCL (µg/L)	ND (µg/L)	NQ (µg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohalides					
Hexachlorocyclopentadiene	50	<0.05			
Hexachlorobenzene	1	<0.05			
Lindane	0.2	<0.02			
Heptachlor	0.4	<0.01			
Heptachlor epoxide	0.2	<0.01			
Endrin	2	<0.01			
Methoxychlor	40	<0.05			
Alachlor	2	<0.05			
Chlordane	2	<0.10	<0.30		
Toxaphene	3	<0.50	<1.5		
Aroclor 1016	**	<0.26			11/29/12
Aroclor 1221	**	<0.19			
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30			
Aroclor 1254	**	<0.33			
Aroclor 1260	**	<0.36			
* Simazine	4	<0.07			
* Atrazine	3	<0.05			
B Unregulated (Phase II)					
Metribuzin		<0.2			
Aldrin		<0.01			
Butachlor		<0.05			
Dieldrin		<0.01			
Metolachlor		<0.05			
Propachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable
Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl
* Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 µg/L. The listed detection limits are the concentration equivalent of 0.5 µg/L decachlorobiphenyl.

DEPARTMENT OF HEALTH LABORATORIES – SAFE DRINKING WATER BRANCH CHAIN OF CUSTODY & **SYNTHETIC ORGANIC CHEMICALS** REPORT

Sample Point No. 728-004 **Facility ID** _____
Source Name: PRINCEVILLE WELL 1 CHLOR & WELL 2 CHLOR
Sample Location: TAP AFTER 411 RESERVOIR
Cl₂ Reading (if Chlorinated) .31 mg/L
Print Sampler Name DAVID KAWAHARA
Sampler Signature David Kawahara
Date: 12/4/12 **Time:** 1030
Collection Remarks: SPECIAL-PCB'S-Duplicate taken

SAMPLE LAB NO.
C12-12-0041

Relinquished by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Courier/Port by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Lab by:	Date/Time:
Received for Lab by:	Date/Time:
Locked in Refrig. by:	Date/Time:
Removed from Refrig. by:	Date/Time:

SDWB Administration Only
☐ Copies Done ☐ Pos. Result
☐ Sent System ☐ Chem Pos.
☐ Sent NI Office ☐ Inor. Mon.
☐ Data Entered ☐ Violation
☐ SDWB Data ☐ Neg. Result
☐ GIS Data ☐ Reduce Mon.

Lab Comments

T = 2.6°C

Reported By:	Date
QA Check:	Date
Forwarded by:	Date

Contaminants	MCL (µg/L)	ND (µg/L)	NQ (µg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohalides					
Hexachlorocyclopentadiene	50	<0.05			
Hexachlorobenzene	1	<0.05			
Lindane	0.2	<0.02			
Heptachlor	0.4	<0.01			
Heptachlor epoxide	0.2	<0.01			
Endrin	2	<0.01			
Methoxychlor	40	<0.05			
Alachlor	2	<0.05			
Chlordane	2	<0.10	<0.30		
Toxaphene	3	<0.50	<1.5		
Aroclor 1016	**	<0.26			12/6/12
Aroclor 1221	**	<0.19			
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30			
Aroclor 1254	**	<0.33			
Aroclor 1260	**	<0.36			
* Simazine	4	<0.07			
* Atrazine	3	<0.05			
B Unregulated (Phase II)					
Metribuzin		<0.2			
Aldrin		<0.01			
Butachlor		<0.05			
Dieldrin		<0.01			
Metolachlor		<0.05			
Propachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable
Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl
*** Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 ug/L. The listed detection limits are the concentration equivalent of 0.5 ug/L decachlorobiphenyl.**

DEPARTMENT OF HEALTH LABORATORIES - SAFE DRINKING WATER BRANCH CHAIN OF CUSTODY & **SYNTHETIC ORGANIC CHEMICALS** REPORT

Sample Point No. _____ Facility ID _____

Source Name: _____

Sample Location: MAKAI CLUB COTTAGE

Cl₂ Reading (if Chlorinated) .30 mg/L

Print Sampler Name DAVID KUTAHARA

Sampler Signature David Kutahara

Date: 12/4/12 Time: 1055

Collection Remarks: SPECIAL - PCB'S

SAMPLE LAB NO.
C12-12-0042

Relinquished by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Courier/Airport by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Lab by:	Date/Time:
Received for Lab by:	Date/Time:
Locked in Refrig. by:	Date/Time:
Removed from Refrig. by:	Date/Time:

SDWB Administration Only

Copies Done	Pos. Result
Sent System	Chem Pos.
Sent NI Office	Inor. Mon.
Data Entered	Violation
SDWB Data	Neg. Result
GIS Data	Reduce Mon.

Lab Comments

T = 2.8°C

Reported By: <u>Pat Purr</u>	Date <u>12/6/12</u>
QA Check: <u>Richard Kuyperance</u>	Date <u>12/6/12</u>
Forwarded by: <u>Pat Purr</u>	Date <u>12-6-12</u>

Contaminants	MCL (µg/L)	ND (µg/L)	NQ (µg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohalides					
Hexachlorocyclopentadiene	50	<0.05			
Hexachlorobenzene	1	<0.05			
Lindane	0.2	<0.02			
Heptachlor	0.4	<0.01			
Heptachlor epoxide	0.2	<0.01			
Endrin	2	<0.01			
Methoxychlor	40	<0.05			
Alachlor	2	<0.05			
Chlordane	2	<0.10	<0.30		
Toxaphene	3	<0.50	<1.5		
Aroclor 1016	**	<0.26			12/6/12
Aroclor 1221	**	<0.19			
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30			
Aroclor 1254	**	<0.33			
Aroclor 1260	**	<0.36			
* Simazine	4	<0.07			
* Atrazine	3	<0.05			
B Unregulated (Phase II)					
Metribuzin		<0.2			
Aldrin		<0.01			
Butachlor		<0.05			
Dieldrin		<0.01			
Metolachlor		<0.05			
Propachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable
 Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl
 * Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 ug/L. The listed detection limits are the concentration equivalent of 0.5 ug/L decachlorobiphenyl.

DEPARTMENT OF HEALTH LABORATORIES - SAFE DRINKING WATER BRANCH CHAIN OF CUSTODY & **SYNTHETIC ORGANIC CHEMICALS** REPORT

Sample Point No. 428-901 Facility ID _____

Source Name: _____

Sample Location: ST. REGIS HOTEL POOL DECK

Cl₂ Reading (if Chlorinated) 33 mg/L

Print Sampler Name DAVID KAWAHARA

Sampler Signature David Kawahara

Date: 12/4/12 Time: 1115

Collection Remarks: SPECIAL - PCBs

SAMPLE LAB NO.
C12-12-0043

Relinquished by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Courier/Airport by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Lab by:	Date/Time:
Received for Lab by:	Date/Time:
Locked in Refrig. by:	Date/Time:
Removed from Refrig. by:	Date/Time:

SDWB Administration Only

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<input type="checkbox"/> Sent System	<input type="checkbox"/> Chem Pos.
<input type="checkbox"/> Sent NI Office	<input type="checkbox"/> Inor. Mon.
<input type="checkbox"/> Data Entered	<input type="checkbox"/> Violation
<input type="checkbox"/> SDWB Data	<input type="checkbox"/> Neg. Result
<input type="checkbox"/> GIS Data	<input type="checkbox"/> Reduce Mon.

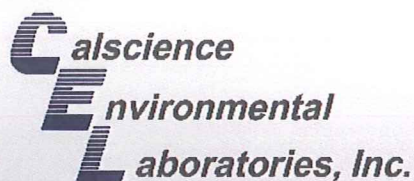
Lab Comments

T = 2.8°C

Reported By: <u>Pat Pind</u>	Date: <u>12/6/12</u>
QA Check: <u>Michael Thompson</u>	Date: <u>12/6/12</u>
Forwarded by: <u>K</u>	Date: <u>12-6-12</u>

Contaminants	MCL (µg/L)	ND (µg/L)	NQ (µg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohalides					
Hexachlorocyclopentadiene	50	<0.05			
Hexachlorobenzene	1	<0.05			
Lindane	0.2	<0.02			
Heptachlor	0.4	<0.01			
Heptachlor epoxide	0.2	<0.01			
Endrin	2	<0.01			
Methoxychlor	40	<0.05			
Alachlor	2	<0.05			
Chlordane	2	<0.10	<0.30		
Toxaphene	3	<0.50	<1.5		
Aroclor 1016	**	<0.26			12/6/12
Aroclor 1221	**	<0.19			
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30			
Aroclor 1254	**	<0.33			
Aroclor 1260	**	<0.36			
* Simazine	4	<0.07			
* Atrazine	3	<0.05			
B Unregulated (Phase II)					
Metribuzin		<0.2			
Aldrin		<0.01			
Butachlor		<0.05			
Dieldrin		<0.01			
Metolachlor		<0.05			
Propachlor		<0.1			

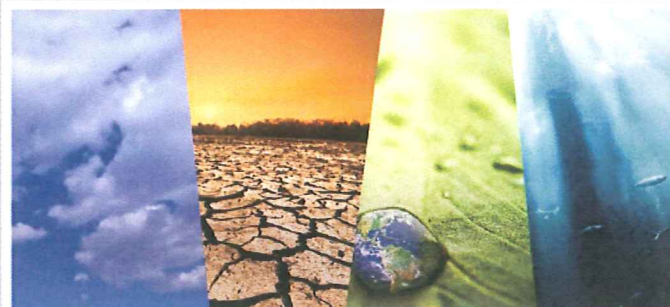
MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable
 Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl
 * Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 ug/L. The listed detection limits are the concentration equivalent of 0.5 ug/L decachlorobiphenyl.



CALSCIENCE

WORK ORDER NUMBER: 12-12-0412

The difference is service



AIR : SOIL : WATER : MARINE CHEMISTRY

Analytical Report For

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville / EPA 508A

Attention: Michael Loo
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Approved for release on 12/10/2012 by:
Don Burley
Project Manager

ResultLink ▶

Email your PM ▶

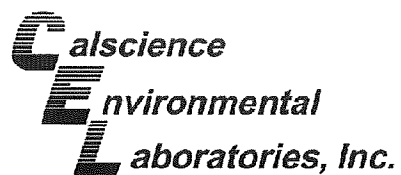


Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



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NELAP ID: 03220CA | DoD-ELAP ID: L10-41 | CSDLAC ID: 10109 | SCAQMD ID: 93LA0830



Contents

Client Project Name: Princeville / EPA 508A

Work Order Number: 12-12-0412

1	Client Sample Data	3
	1.1 EPA 508A (Aqueous)	3
2	Quality Control Sample Data	4
	2.1 LCS/LCSD	4
3	Glossary of Terms and Qualifiers	5
4	Chain of Custody/Sample Receipt Form	6

Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Date Received: 12/07/12
Work Order No: 12-12-0412
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville / EPA 508A

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Skim Sample	12-12-0412-1-A	12/06/12 11:20	Aqueous	GC 44	12/07/12	12/10/12 11:01	121207L06

Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	1.4	0.25	1		ug/L

Water-tap at 411 tank	12-12-0412-2-A	12/06/12 11:16	Aqueous	GC 44	12/07/12	12/10/12 11:16	121207L06
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Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Water-St. Regis Pool	12-12-0412-4-A	12/06/12 10:55	Aqueous	GC 44	12/07/12	12/10/12 11:30	121207L06
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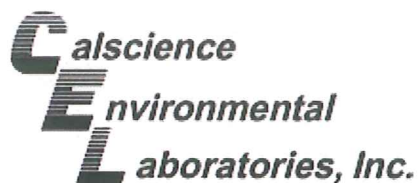
Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Method Blank	099-14-541-11	N/A	Aqueous	GC 44	12/07/12	12/10/12 10:47	121207L06
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Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

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Quality Control - LCS/LCS Duplicate



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Date Received: N/A
Work Order No: 12-12-0412
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville / EPA 508A

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-541-11	Aqueous	GC 44	12/07/12	12/10/12	121207L06

Parameter	<u>SPIKE</u> <u>ADDED</u>	<u>LCS</u> <u>CONC</u>	<u>LCS</u> <u>%REC</u>	<u>LCSD</u> <u>CONC</u>	<u>LCSD</u> <u>%REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Decachlorobiphenyl	0.6950	0.5681	82	0.5686	82	80-120	0	0-10	

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RPD - Relative Percent Difference , CL - Control Limit

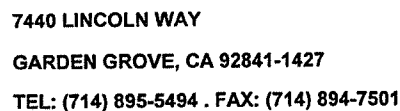
Work Order Number: 12-12-0412

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
J	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

MPN - Most Probable Number





WO# / LAB USE ONLY

12-12-0412

PAGE: OF

06/01/10 Revision

0412

Page 1 of 1

From: (808) 826-8100
 Michael Loo
 Princeville Utilities Company,
 5-3541 Kuhio Highway, Suite 221
 Princeville, HI 96722

Origin ID: LIHA

FedEx
Express



J12201209200325

Ship Date: 06DEC12
 ActWgt: 9.0 LB
 CAD: 7665451/INET3300

Delivery Address Bar Code



SHIP TO: (714) 895-5494

BILL SENDER

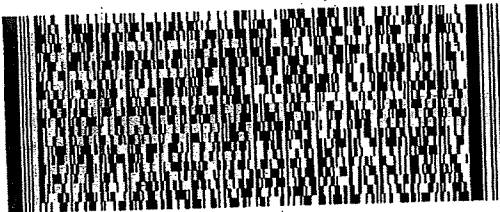
Don Burley
 Calscience Environmental Lab.
 7440 LINCOLN WAY

GARDEN GROVE, CA 92841

Ref #
 Invoice #
 PO #
 Dept #

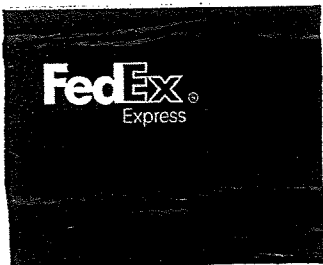
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 0201



W1 APVA

92841
 CA-US
 SNA



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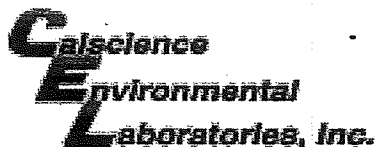
147918 REV 8/08 RRD



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WORK ORDER #: 12-12-0412

SAMPLE RECEIPT FORMCooler 1 of 1CLIENT: PrincetonvilleDATE: 12/07/12**TEMPERATURE:** Thermometer ID: SC4 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)Temperature 3.8 °C - 0.3 °C (CF) = 3.5 °C ☒ Blank ☐ Sample☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.☐ Received at ambient temperature, placed on ice for transport by Courier.Ambient Temperature: ☐ Air ☐ FilterInitial: AP**CUSTODY SEALS INTACT:**☐ Cooler ☐ _____ ☐ No (Not Intact) ☒ Not Present ☐ N/AInitial: AP☐ Sample ☐ _____ ☐ No (Not Intact) ☒ Not PresentInitial: AP**SAMPLE CONDITION:**

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

☒ Collection date/time, matrix, and/or # of containers logged in based on sample labels.☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.Sampler's name indicated on COC..... ☐ ☒ ☐Sample container label(s) consistent with COC..... ☐ ☒ ☐Sample container(s) intact and good condition..... ☒ ☐ ☐Proper containers and sufficient volume for analyses requested..... ☒ ☐ ☐Analyses received within holding time..... ☒ ☐ ☐pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours... ☐ ☐ ☒Proper preservation noted on COC or sample container..... ☒ ☐ ☐☐ Unpreserved vials received for Volatiles analysisVolatile analysis container(s) free of headspace..... ☐ ☐ ☒Tedlar bag(s) free of condensation..... ☐ ☐ ☒**CONTAINER TYPE:**Solid: ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (____) ☐ EnCores® ☐ TerraCores® ☐ _____Water: ☐ VOA ☐ VOA_h ☐ VOA_{na2} ☐ 125AGB ☐ 125AGB_h ☐ 125AGB_p ☒ 1AGB ☐ 1AGB_{na2} ☐ 1AGB_s☐ 500AGB ☐ 500AGJ ☐ 500AGJ_s ☐ 250AGB ☐ 250CGB ☐ 250CGB_s ☐ 1PB ☐ 1PB_{na} ☐ 500PB☐ 250PB ☐ 250PB_n ☐ 125PB ☐ 125PB_{znna} ☐ 100PJ ☐ 100PJ_{na2} ☐ _____ ☐ _____ ☐ _____Air: ☐ Tedlar® ☐ Canister Other: ☐ _____ Trip Blank Lot#: _____ Labeled/Checked by: APContainer: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: APPreservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure znna: ZnAc₂+NaOH f: Filtered Scanned by: AP

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CALSCIENCE

WORK ORDER NUMBER: 13-02-0369

The difference is service



AIR :: SOIL :: WATER :: MARINE CHEMISTRY

Analytical Report For

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville Utilities Company, Inc.

Attention: Michael Loo
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Approved for release on 02/11/2013 by:
Don Burley
Project Manager

ResultLink ▶

Email your PM ▶



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Contents

Client Project Name: Princeville Utilities Company, Inc.

Work Order Number: 13-02-0369

1	Client Sample Data	3
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1.2	EPA 8082 PCB Aroclors (Solid)	4
2	Quality Control Sample Data	5
2.1	MS/MSD and/or Duplicate	5
2.2	LCS/LCSD	6
3	Glossary of Terms and Qualifiers	8
4	Chain of Custody/Sample Receipt Form	9

Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Date Received: 02/07/13
Work Order No: 13-02-0369
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville Utilities Company, Inc.

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Skim Sample (Method 508A)	13-02-0369-1-A	02/05/13 14:00	Aqueous	GC 44	02/07/13	02/08/13 17:15	130207L01

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Decachlorobiphenyl	39	2.5	10		ug/L

Water (tap at 411) (Method 508A)	13-02-0369-2-A	02/05/13 14:00	Aqueous	GC 44	02/07/13	02/08/13 17:00	130207L01
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Decachlorobiphenyl	ND	0.25	1		ug/L

Method Blank	099-14-541-12	N/A	Aqueous	GC 44	02/07/13	02/08/13 13:27	130207L01
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Decachlorobiphenyl	ND	0.25	1		ug/L

Return to Contents

Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Date Received: 02/07/13
Work Order No: 13-02-0369
Preparation: EPA 3545
Method: EPA 8082
Units: mg/kg

Project: Princeville Utilities Company, Inc.

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Wall Scraping #A (Method 8082)	13-02-0369-3-A	02/05/13 14:00	Solid	GC 58	02/07/13	02/09/13 12:02	130207L08

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aroclor-1016	ND	500	10000		Aroclor-1248	ND	500	10000	
Aroclor-1221	ND	500	10000		Aroclor-1254	830	500	10000	
Aroclor-1232	ND	500	10000		Aroclor-1260	750	500	10000	
Aroclor-1242	ND	500	10000		Aroclor-1262	ND	500	10000	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
Decachlorobiphenyl	1760	50-130		1	2,4,5,6-Tetrachloro-m-Xylene	700	50-130		1

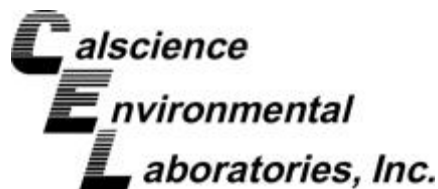
Wall Scraping #B (Method 8082)	13-02-0369-4-A	02/05/13 14:00	Solid	GC 58	02/07/13	02/09/13 12:20	130207L08
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aroclor-1016	ND	500	10000		Aroclor-1248	ND	500	10000	
Aroclor-1221	ND	500	10000		Aroclor-1254	840	500	10000	
Aroclor-1232	ND	500	10000		Aroclor-1260	790	500	10000	
Aroclor-1242	ND	500	10000		Aroclor-1262	ND	500	10000	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
Decachlorobiphenyl	920	50-130		1	2,4,5,6-Tetrachloro-m-Xylene	230	50-130		1

Method Blank	099-12-535-1,786	N/A	Solid	GC 58	02/07/13	02/07/13 14:43	130207L08
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aroclor-1016	ND	0.050	1		Aroclor-1248	ND	0.050	1	
Aroclor-1221	ND	0.050	1		Aroclor-1254	ND	0.050	1	
Aroclor-1232	ND	0.050	1		Aroclor-1260	ND	0.050	1	
Aroclor-1242	ND	0.050	1		Aroclor-1262	ND	0.050	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
Decachlorobiphenyl	85	50-130			2,4,5,6-Tetrachloro-m-Xylene	76	50-130		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Quality Control - Spike/Spike Duplicate



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

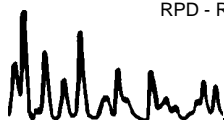
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Work Order No: 13-02-0369
Preparation: EPA 3545
Method: EPA 8082

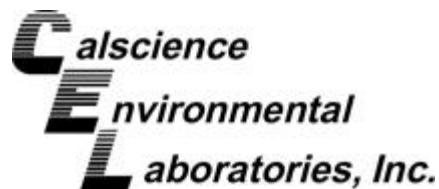
Project Princeville Utilities Company, Inc.

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
13-02-0367-3	Solid	GC 58	02/07/13	02/07/13	130207S08

Parameter	SAMPLE CONC	SPIKE ADDED	MS CONC	MS %REC	MSD CONC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Aroclor-1016	ND	0.1000	0.07350	74	0.08050	80	50-135	9	0-20	
Aroclor-1260	ND	0.1000	0.08550	86	0.09500	95	50-135	11	0-25	

RPD - Relative Percent Difference , CL - Control Limit





Quality Control - LCS/LCS Duplicate



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

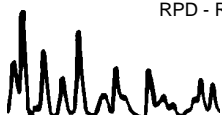
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Work Order No: 13-02-0369
Preparation: EPA 3545
Method: EPA 8082

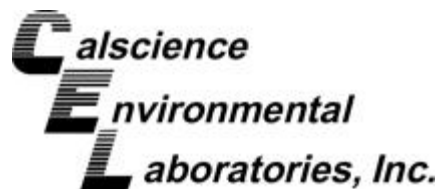
Project: Princeville Utilities Company, Inc.

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-535-1,786	Solid	GC 58	02/07/13	02/07/13	130207L08

Parameter	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Aroclor-1016	0.1000	0.09800	98	0.08850	88	50-135	10	0-20	
Aroclor-1260	0.1000	0.09000	90	0.08550	86	50-135	5	0-25	

RPD - Relative Percent Difference , CL - Control Limit





Quality Control - LCS/LCS Duplicate



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

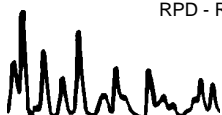
Date Received: N/A
Work Order No: 13-02-0369
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville Utilities Company, Inc.

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-541-12	Aqueous	GC 44	02/07/13	02/08/13	130207L01

Parameter	<u>SPIKE ADDED</u>	<u>LCS CONC</u>	<u>LCS %REC</u>	<u>LCSD CONC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Decachlorobiphenyl	0.6950	0.5615	81	0.5687	82	80-120	1	0-10	

RPD - Relative Percent Difference , CL - Control Limit



Glossary of Terms and Qualifiers

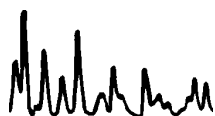


Work Order Number: 13-02-0369

Qualifier	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

MPN - Most Probable Number



LABORATORY CLIENT: Princeville Utilities Company, Inc.
ADDRESS: 5-3541 Kuhio Highway, Suite 221
CITY: Princeville
STATE: HI ZIP: 96722
E-MAIL: mloo@princeville.com

LABORATORY CLIENT: Princeville Utilities Company, Inc.
ADDRESS: 5-3541 Kuhio Highway, Suite 221
CITY: Princeville
STATE: HI ZIP: 96722
E-MAIL: mloo@princeville.com

LABORATORY CLIENT: Princeville Utilities Company, Inc.
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ADDRESS: 5-3541 Kuhio Highway, Suite 221
CITY: Princeville
STATE: HI ZIP: 96722
E-MAIL: mloo@princeville.com

0369

From: (808) 826-6100
Michael Loo
Princeville Utilities Company,
5-3541 Kuhio Highway, Suite 221

Origin ID: LIHA

FedEx
Express

J13101212190326

Princeville, HI 96722

Ship Date: 06FEB13
ActWgt: 50.0 LB
CAD: 7665451/INET3370

Dims: 18 X 10 X 14 IN

Delivery Address Bar Code



SHIP TO: (714) 895-5494

BILL SENDER

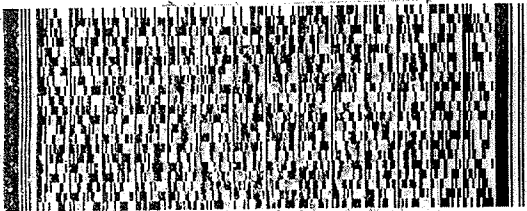
Don Burley
Calscience Environmental Lab.
7440 LINCOLN WAY

GARDEN GROVE, CA 92841

Ref #
Invoice #
PO #
Dept #

THU - 07 FEB A1
PRIORITY OVERNIGHT

TRK# 7946.8561 1556
0201



WZ APVA

92841
CA-US
SNA



518G1/DF24/93AB

WORK ORDER #: 13-02-0369

SAMPLE RECEIPT FORMCooler 1 of 1CLIENT: PrincevilleDATE: 02/07/13

TEMPERATURE: Thermometer ID: SC2 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)

Temperature 5.8 °C - 0.2 °C (CF) = 5.6 °C ☐ Blank ☒ Sample☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.☐ Received at ambient temperature, placed on ice for transport by Courier.Ambient Temperature: ☐ Air ☐ FilterInitial: R**CUSTODY SEALS INTACT:**☐ Cooler ☐ _____ ☐ No (Not Intact) ☒ Not Present ☐ N/AInitial: z☐ Sample ☐ _____ ☐ No (Not Intact) ☒ Not PresentInitial: PL**SAMPLE CONDITION:**

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COC document(s) received complete.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--	--------------------------	-------------------------------------	--------------------------

☒ Collection date/time, matrix, and/or # of containers logged in based on sample labels.☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.

Sampler's name indicated on COC.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------------------	--------------------------	-------------------------------------	--------------------------

Sample container label(s) consistent with COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--	-------------------------------------	--------------------------	--------------------------

Sample container(s) intact and good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--	-------------------------------------	--------------------------	--------------------------

Proper containers and sufficient volume for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
---	-------------------------------------	--------------------------	--------------------------

Analyses received within holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--	-------------------------------------	--------------------------	--------------------------

pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours...	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
---	--------------------------	--------------------------	-------------------------------------

Proper preservation noted on COC or sample container.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
---	-------------------------------------	--------------------------	--------------------------

☐ Unpreserved vials received for Volatiles analysis

Volatile analysis container(s) free of headspace.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
---	--------------------------	--------------------------	-------------------------------------

Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
---	--------------------------	--------------------------	-------------------------------------

CONTAINER TYPE:Solid: ☐ 4ozCGJ ☒ 8ozCGJ ^{(-3), (-4)} ☐ 16ozCGJ ☐ Sleeve (____) ☐ EnCores® ☐ TerraCores® ☐ _____Water: ☐ VOA ☐ VOA_h ☐ VOA_{na2} ☐ 125AGB ☐ 125AGB_h ☐ 125AGB_p ☒ 1AGB ^{(-1), (-2)} ☐ 1AGB_{na2} ☐ 1AGB_s☐ 500AGB ☐ 500AGJ ☐ 500AGJ_s ☐ 250AGB ☐ 250CGB ☐ 250CGB_s ☐ 1PB ☐ 1PB_{na} ☐ 500PB☐ 250PB ☐ 250PB_n ☐ 125PB ☐ 125PB_{znna} ☐ 100PJ ☐ 100PJ_{na2} ☐ _____ ☐ _____ ☐ _____Air: ☐ Tedlar® ☐ Canister Other: ☐ _____ Trip Blank Lot#: _____ Labeled/Checked by: h. LContainer: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: PSPreservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure znna: ZnAc₂+NaOH f: Filtered Scanned by: PS

Sample Point No. 428-004 Facility ID _____
 Source Name: Princetonville
 Sample Location: Tap after 4th Reservoir
 Cl₂ Reading (if Chlorinated) 0.3 mg/L
 Print Sampler Name Steven Matkedy
 Sampler Signature [Signature]
 Date: 2/5/13 Time: 8:11
 Collection Remarks: Duplicate Taken

Relinquished by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Courier/Airport by: <u>[Signature]</u>	Date/Time: <u>2/5/13 10:30</u>
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by: <u>[Signature]</u>	Date/Time: <u>2/6/13 10:30</u>
Delivered to Lab by: <u>[Signature]</u>	Date/Time: <u>2/6/13 10:55</u>
Received for Lab by: <u>[Signature]</u>	Date/Time: <u>2/6/13 10:55</u>
Locked in Refrig. by:	Date/Time:
Removed from Refrig. by:	Date/Time:

SDWB Administration Only
☐ Copies Done ☐ Pos. Result
☐ Sent System ☐ Chem Pos.
☐ Sent NI Office ☐ Inor. Mon.
☐ Data Entered ☐ Violation
☐ SDWB Data ☐ Neg. Result
☐ GIS Data ☐ Reduce Mon.

Lab Comments *There were suspicious white particulates in the extract after the SPE extraction. It did not dissolve in the extraction solvent, ethyl acetate. It also did not dissolve in water.*
 RP 2/7/13

Reported By: <u>[Signature]</u>	Date: <u>2/7/13</u>
QA Check: <u>[Signature]</u>	Date: <u>2/7/13</u>
Forwarded by: <u>[Signature]</u>	Date: <u>2-7-13</u>

SAMPLE LAB NO.
C13-02-0035

Contaminants	MCL (µg/L)	ND (µg/L)	NQ (µg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohalides					
Hexachlorocyclopentadiene	50	<0.05			
Hexachlorobenzene	1	<0.05			
Lindane	0.2	<0.02			
Heptachlor	0.4	<0.01			
Heptachlor epoxide	0.2	<0.01			
Endrin	2	<0.01			
Methoxychlor	40	<0.05			
Alachlor	2	<0.05			
Chlordane	2	<0.10	<0.30		
Toxaphene	3	<0.50	<1.5		
Aroclor 1016	**	<0.26			2/6/13
Aroclor 1221	**	<0.19			
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30			
Aroclor 1254	**	<0.33			
Aroclor 1260	**	<0.36			
* Simazine	4	<0.07			
* Atrazine	3	<0.05			
B Unregulated (Phase II)					
Metribuzin		<0.2			
Aldrin		<0.01			
Butachlor		<0.05			
Dieldrin		<0.01			
Metolachlor		<0.05			
Propachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable
 Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl
 * Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 µg/L. The listed detection limits are the concentration equivalent of 0.5 µg/L decachlorobiphenyl.

Sample Point No. _____ Facility ID _____
 Source Name: Princetonville
 Sample Location: Maqai Cottage
 Cl₂ Reading (if Chlorinated) 0.3 mg/L
 Print Sampler Name Steven Makanda
 Sampler Signature [Signature]
 Date: 2/5/13 Time: 8:37
 Collection Remarks: _____

Relinquished by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Courier/Airport by: <u>[Signature]</u>	Date/Time: <u>2/5/13 10:30</u>
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by: <u>[Signature]</u>	Date/Time: <u>2/6/13 10:30</u>
Delivered to Lab by: <u>[Signature]</u>	Date/Time: <u>2/6/13 10:55</u>
Received for Lab by: <u>[Signature]</u>	Date/Time: <u>2/6/13 10:55</u>
Locked in Refrig. by:	Date/Time:
Removed from Refrig. by:	Date/Time:

SDWB Administration Only
☐ Copies Done ☐ Pos. Result
☐ Sent System ☐ Chem Pos.
☐ Sent NI Office ☐ Inor. Mon.
☐ Data Entered ☐ Violation
☐ SDWB Data ☐ Neg. Result
☐ GIS Data ☐ Reduce Mon.

Lab Comments

Reported By: <u>[Signature]</u>	Date: <u>2/7/13</u>
QA Check: <u>[Signature]</u>	Date: <u>2/7/13</u>
Forwarded by: <u>[Signature]</u>	Date: <u>2-7-13</u>

SAMPLE LAB NO.

C13-02-0036

Contaminants	MCL (µg/L)	ND (µg/L)	NQ (µg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohalides					
Hexachlorocyclopentadiene	50	<0.05			
Hexachlorobenzene	1	<0.05			
Lindane	0.2	<0.02			
Heptachlor	0.4	<0.01			
Heptachlor epoxide	0.2	<0.01			
Endrin	2	<0.01			
Methoxychlor	40	<0.05			
Alachlor	2	<0.05			
Chlordane	2	<0.10	<0.30		
Toxaphene	3	<0.50	<1.5		
Aroclor 1016	**	<0.26			2/6/13
Aroclor 1221	**	<0.19			
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30			
Aroclor 1254	**	<0.33			
Aroclor 1260	**	<0.36			
* Simazine	4	<0.07			
* Atrazine	3	<0.05			
B Unregulated (Phase II)					
Metribuzin		<0.2			
Aldrin		<0.01			
Butachlor		<0.05			
Dieldrin		<0.01			
Metolachlor		<0.05			
Propachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable
 Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl
 * Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 µg/L. The listed detection limits are the concentration equivalent of 0.5 µg/L decachlorobiphenyl.

Sample Point No. 428-901 Facility ID _____
 Source Name: Princeton
 Sample Location: St. Louis Pool Park
 Cl₂ Reading (if Chlorinated) 0.3 mg/L
 Print Sampler Name Steven M. Brady
 Sampler Signature [Signature]
 Date: 2/5/13 Time: 9:00
 Collection Remarks: _____

SAMPLE LAB NO.
C13-02-0037

Relinquished by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Courier/Airport by: <u>[Signature]</u>	Date/Time: <u>2/5/13 10:30</u>
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by: <u>[Signature]</u>	Date/Time: <u>2/6/13 10:30</u>
Delivered to Lab by: <u>[Signature]</u>	Date/Time: <u>2/6/13 10:55</u>
Received for Lab by: <u>Princeton</u>	Date/Time: <u>2/6/13 10:55</u>
Locked in Refrig. by:	Date/Time:
Removed from Refrig. by:	Date/Time:

SDWB Administration Only
 Copies Done _____ Pos. Result _____
 Sent System _____ Chem Pos. _____
 Sent NI Office _____ Inor. Mon. _____
 Data Entered _____ Violation _____
 SDWB Data _____ Neg. Result _____
 GIS Data _____ Reduce Mon. _____

Lab Comments

Reported By: [Signature] Date: 2/7/13
 QA Check: [Signature] Date: 2/7/13
 Forwarded by: [Signature] Date: 2-7-13

Contaminants	MCL (µg/L)	ND (µg/L)	NQ (µg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohalides					
Hexachlorocyclopentadiene	50	<0.05			
Hexachlorobenzene	1	<0.05			
Lindane	0.2	<0.02			
Heptachlor	0.4	<0.01			
Heptachlor epoxide	0.2	<0.01			
Endrin	2	<0.01			
Methoxychlor	40	<0.05			
Alachlor	2	<0.05			
Chlordane	2	<0.10	<0.30		
Toxaphene	3	<0.50	<1.5		
Aroclor 1016	**	<0.26			2/6/13
Aroclor 1221	**	<0.19			
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30			
Aroclor 1254	**	<0.33			
Aroclor 1260	**	<0.36			
* Simazine	4	<0.07			
* Atrazine	3	<0.05			
B Unregulated (Phase II)					
Metribuzin		<0.2			
Aldrin		<0.01			
Butachlor		<0.05			
Dieldrin		<0.01			
Metolachlor		<0.05			
Propachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable
 Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl
 * Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 ug/L. The listed detection limits are the concentration equivalent of 0.5 ug/L decachlorobiphenyl.

WORK ORDER #: 12-12-0412

SAMPLE ANOMALY FORM

SAMPLES - CONTAINERS & LABELS:

Comments:

- ☒ Sample(s) NOT RECEIVED but listed on COC
☐ Sample(s) received but NOT LISTED on COC
☐ Holding time expired – list sample ID(s) and test
☐ Insufficient quantities for analysis – list test
☐ Improper container(s) used – list test
☐ Improper preservative used – list test
☐ No preservative noted on COC or label – list test & notify lab
☐ Sample labels illegible – note test/container type
☐ Sample label(s) do not match COC – Note in comments
- ☐ Sample ID
☐ Date and/or Time Collected
☐ Project Information
☐ # of Container(s)
☐ Analysis
- ☐ Sample container(s) compromised – Note in comments
- ☐ Water present in sample container
☐ Broken
- ☐ Sample container(s) not labeled
- ☐ Air sample container(s) compromised – Note in comments
- ☐ Flat
☐ Very low in volume
☐ Leaking (Not transferred - duplicate bag submitted)
☐ Leaking (transferred into Calscience Tedlar® Bag*)
☐ Leaking (transferred into Client's Tedlar® Bag*)
- ☒ Other: _____

(-3) Water - Makai Club
not received.

* Collection date & time
per label:

(-1) 12/6/12 @ 11:20A

(-2) 12/6/12 @ 11:16A

(-4) 12/6/12 @ 10:58A

HEADSPACE – Containers with Bubble > 6mm or ¼ inch:

Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Cont. received	Analysis

Comments: _____

*Transferred at Client's request.

Initial / Date: D.L. 12/07/12

Return to Contents

Sample Point No. 428-004 Facility ID _____
 Source Name: Princeton
 Sample Location: Tap After 411 Reservoir
 Cl₂ Reading (if Chlorinated) 0.3 mg/L
 Print Sampler Name Steve Makrola
 Sampler Signature [Signature]
 Date: 1/24/13 Time: 10:15
 Collection Remarks: _____

SAMPLE LAB NO.

C13-01-0001

Relinquished by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Courier/Airport by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Lab by:	Date/Time:
Received for Lab by:	Date/Time:
Locked in Refrig. by:	Date/Time:
Removed from Refrig. by:	Date/Time:

SDWB Administration Only
☐ Copies Done ☐ Pos. Result
☐ Sent System ☐ Chem Pos.
☐ Sent NI Office ☐ Inor. Mon.
☐ Data Entered ☐ Violation
☐ SDWB Data ☐ Neg. Result
☐ GIS Data ☐ Reduce Mon.

Lab Comments

Reported By: <u>[Signature]</u>	Date: <u>1/29/13</u>
QA Check: <u>[Signature]</u>	Date: <u>1-30-13</u>
Forwarded by: <u>[Signature]</u>	Date: _____

Contaminants	MCL (µg/L)	ND (µg/L)	NQ (µg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohalides					
Hexachlorocyclopentadiene	50	<0.05			
Hexachlorobenzene	1	<0.05			
Lindane	0.2	<0.02			
Heptachlor	0.4	<0.01			
Heptachlor epoxide	0.2	<0.01			
Endrin	2	<0.01			
Methoxychlor	40	<0.05			
Alachlor	2	<0.05			
Chlordane	2	<0.10	<0.30		
Toxaphene	3	<0.50	<1.5		
Aroclor 1016	**	<0.26			1/28/13
Aroclor 1221	**	<0.19			
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30			
Aroclor 1254	**	<0.33			
Aroclor 1260	**	<0.36			
* Simazine	4	<0.07			
* Atrazine	3	<0.05			
B Unregulated (Phase II)					
Metribuzin		<0.2			
Aldrin		<0.01			
Butachlor		<0.05			
Dieldrin		<0.01			
Metolachlor		<0.05			
Propachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable
 Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl
 * Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 µg/L. The listed detection limits are the concentration equivalent of 0.5 µg/L decachlorobiphenyl).

Sample Point No. _____ Facility ID _____
 Source Name: Princeville
 Sample Location: Makai Cottage
 Cl₂ Reading (if Chlorinated) 0.3 mg/L
 Print Sampler Name Steven Matsuda
 Sampler Signature [Signature]
 Date: 1/22/13 Time: 10:30
 Collection Remarks: _____

Relinquished by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Courier/Airport by: <u>[Signature]</u>	Date/Time: <u>1/22/13 12:00</u>
Received by: <u>[Signature]</u>	Date/Time: <u>1/23/13 9:30</u>
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Lab by: <u>[Signature]</u>	Date/Time: <u>1/23/13 9:55</u>
Received for Lab by: <u>[Signature]</u>	Date/Time: <u>1/23/13 9:55A</u>
Locked in Refrig. by:	Date/Time:
Removed from Refrig. by:	Date/Time:

SDWB Administration Only
☐ Copies Done ☐ Pos. Result
☐ Sent System ☐ Chem Pos.
☐ Sent NI Office ☐ Inor. Mon.
☐ Data Entered ☐ Violation
☐ SDWB Data ☐ Neg. Result
☐ GIS Data ☐ Reduce Mon.

Lab Comments

Reported By: <u>[Signature]</u>	Date: <u>1/29/13</u>
QA Check: <u>[Signature]</u>	Date: <u>1-30-13</u>
Forwarded by: <u>[Signature]</u>	Date: _____

SAMPLE LAB NO.

C13-01-0002

Contaminants	MCL (µg/L)	ND (µg/L)	NQ (µg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohalides					
Hexachlorocyclopentadiene	50	<0.05			
Hexachlorobenzene	1	<0.05			
Lindane	0.2	<0.02			
Heptachlor	0.4	<0.01			
Heptachlor epoxide	0.2	<0.01			
Endrin	2	<0.01			
Methoxychlor	40	<0.05			
Alachlor	2	<0.05			
Chlordane	2	<0.10	<0.30		
Toxaphene	3	<0.50	<1.5		
Aroclor 1016	**	<0.26			1/28/13
Aroclor 1221	**	<0.19			
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30			
Aroclor 1254	**	<0.33			
Aroclor 1260	**	<0.36			
* Simazine	4	<0.07			
* Atrazine	3	<0.05			
B Unregulated (Phase II)					
Metribuzin		<0.2			
Aldrin		<0.01			
Butachlor		<0.05			
Dieldrin		<0.01			
Metolachlor		<0.05			
Propachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable
 Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl
 * Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 µg/L. The listed detection limits are the concentration equivalent of 0.5 µg/L decachlorobiphenyl.

Sample Point No. 428-901 Facility ID _____
 Source Name: Princeton
 Sample Location: St. Regis Hotel, Pool Deck
 Cl₂ Reading (if Chlorinated) 0.3 mg/L
 Print Sampler Name Steve Matsuda
 Sampler Signature [Signature]
 Date: 1/22/13 Time: 10:45
 Collection Remarks: _____

SAMPLE LAB NO.
C13-01-0003

Relinquished by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Courier/Airport by: <u>[Signature]</u>	Date/Time: <u>1/22/13 12:00</u>
Received by: <u>[Signature]</u>	Date/Time: <u>1/23/13 930</u>
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Lab by: <u>[Signature]</u>	Date/Time: <u>1/23/13 955</u>
Received for Lab by: <u>[Signature]</u>	Date/Time: <u>1/23/13 955A</u>
Locked in Refrig. by:	Date/Time:
Removed from Refrig. by:	Date/Time:

SDWB Administration Only
 Copies Done _____ Pos. Result
 Sent System _____ Chem Pos.
 Sent NI Office _____ Inor. Mon.
 Data Entered _____ Violation
 SDWB Data _____ Neg. Result
 GIS Data _____ Reduce Mon.

Lab Comments

Reported By: <u>[Signature]</u>	Date: <u>1/29/13</u>
QA Check: <u>[Signature]</u>	Date: <u>1-30-13</u>
Forwarded by: <u>[Signature]</u>	Date: _____

Contaminants	MCL (µg/L)	ND (µg/L)	NQ (µg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohalides					
Hexachlorocyclopentadiene	50	<0.05			
Hexachlorobenzene	1	<0.05			
Lindane	0.2	<0.02			
Heptachlor	0.4	<0.01			
Heptachlor epoxide	0.2	<0.01			
Endrin	2	<0.01			
Methoxychlor	40	<0.05			
Alachlor	2	<0.05			
Chlordane	2	<0.10	<0.30		
Toxaphene	3	<0.50	<1.5		
Aroclor 1016	**	<0.26			1/28/13
Aroclor 1221	**	<0.19			
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30			
Aroclor 1254	**	<0.33			
Aroclor 1260	**	<0.36			
* Simazine	4	<0.07			
* Atrazine	3	<0.05			
B Unregulated (Phase II)					
Metribuzin		<0.2			
Aldrin		<0.01			
Butachlor		<0.05			
Dieldrin		<0.01			
Metolachlor		<0.05			
Propachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable
 Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl
 * Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 µg/L. The listed detection limits are the concentration equivalent of 0.5 µg/L decachlorobiphenyl.

Sample Point No. 428-004 Facility ID _____
 Source Name: Truceville
 Sample Location: Tap After 4th Reservoir
 Cl₂ Reading (if Chlorinated) 0.37 mg/L
 Print Sampler Name Steven Matsuda
 Sampler Signature [Signature]
 Date: 2/14/13 Time: 10:10
 Collection Remarks: Duplicate A (for water), B 10:25, C 10:25

Relinquished by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Courier/Airport by: <u>[Signature]</u>	Date/Time: <u>2/14/13 11:45</u>
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by: <u>[Signature]</u>	Date/Time: <u>2/15/13 9:30</u>
Delivered to Lab by: <u>[Signature]</u>	Date/Time: <u>2/15/13 9:50</u>
Received for Lab by: <u>R. Seal</u>	Date/Time: <u>2-15-13 9:50</u>
Locked in Refrig. by: <u>R. Seal</u>	Date/Time: <u>2-15-13 9:55</u>
Removed from Refrig. by: <u>[Signature]</u>	Date/Time: <u>2/19/13 700A</u>

SDWB Administration Only
☐ Copies Done ☐ Pos. Result
☐ Sent System ☐ Chem Pos.
☐ Sent NI Office ☐ Inor. Mon.
☐ Data Entered ☐ Violation
☐ SDWB Data ☐ Neg. Result
☐ GIS Data ☐ Reduce Mon.

Lab Comments

T = 4.4°C

Reported By: <u>[Signature]</u>	Date: <u>2/20/13</u>
QA Check: <u>[Signature]</u>	Date: <u>2/20/13</u>
Forwarded by: <u>[Signature]</u>	Date: <u>2-20-13</u>

SAMPLE LAB NO.

C13-02-0086A

Contaminants	MCL (µg/L)	ND (µg/L)	NQ (µg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohalides					
Hexachlorocyclopentadiene	50	<0.05			
Hexachlorobenzene	1	<0.05			
Lindane	0.2	<0.02			
Heptachlor	0.4	<0.01			
Heptachlor epoxide	0.2	<0.01			
Endrin	2	<0.01			
Methoxychlor	40	<0.05			
Alachlor	2	<0.05			
Chlordane	2	<0.10	<0.30		
Toxaphene	3	<0.50	<1.5		
Aroclor 1016	**	<0.26			2/19/13 ↓
Aroclor 1221	**	<0.19			
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30			
Aroclor 1254	**	<0.33			
Aroclor 1260	**	<0.36			
* Simazine	4	<0.07			
* Atrazine	3	<0.05			
B Unregulated (Phase II)					
Metribuzin		<0.2			
Aldrin		<0.01			
Butachlor		<0.05			
Dieldrin		<0.01			
Metolachlor		<0.05			
Propachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable
 Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl
 * Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 ug/L. The listed detection limits are the concentration equivalent of 0.5 ug/L decachlorobiphenyl.



CALSCIENCE

WORK ORDER NUMBER: 13-02-1709

The difference is service



AIR :: SOIL :: WATER :: MARINE CHEMISTRY

Analytical Report For

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville Utilities Company, Inc.

Attention: Michael Loo
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Approved for release on 03/4/2013 by:
Don Burley
Project Manager

ResultLink ▶

Email your PM ▶



Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



Contents

Client Project Name: Princeville Utilities Company, Inc.

Work Order Number: 13-02-1709

1	Client Sample Data	3
1.1	EPA 508A (Aqueous)	3
2	Quality Control Sample Data	4
2.1	LCS/LCSD	4
3	Glossary of Terms and Qualifiers	5
4	Chain of Custody/Sample Receipt Form	6

Analytical Report



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Date Received: 02/28/13
Work Order No: 13-02-1709
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville Utilities Company, Inc.

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Skim Sample	13-02-1709-1-A	02/27/13 08:23	Aqueous	GC 44	02/28/13	03/04/13 16:00	130228L01

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Decachlorobiphenyl	4.4	0.25	1		ug/L

St. Regis Pool Deck	13-02-1709-4-A	02/27/13 07:20	Aqueous	GC 44	02/28/13	03/04/13 13:38	130228L01
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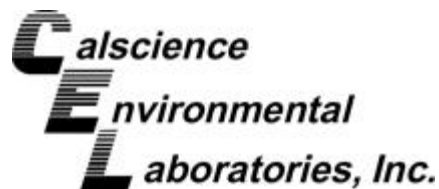
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Decachlorobiphenyl	9.3	2.5	10		ug/L

Method Blank	099-14-541-14	N/A	Aqueous	GC 44	02/28/13	03/04/13 12:41	130228L01
---------------------	----------------------	------------	----------------	--------------	-----------------	-----------------------	------------------

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Decachlorobiphenyl	ND	0.25	1		ug/L

Return to Contents

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Quality Control - LCS/LCS Duplicate



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

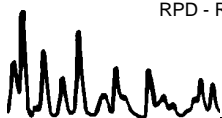
Date Received: N/A
Work Order No: 13-02-1709
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville Utilities Company, Inc.

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-541-14	Aqueous	GC 44	02/28/13	03/04/13	130228L01

Parameter	<u>SPIKE ADDED</u>	<u>LCS CONC</u>	<u>LCS %REC</u>	<u>LCSD CONC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Decachlorobiphenyl	0.6950	0.8168	118	0.8000	115	80-120	2	0-10	

RPD - Relative Percent Difference , CL - Control Limit



Glossary of Terms and Qualifiers

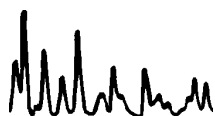


Work Order Number: 13-02-1709

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

For any analysis identified as a "field" test with a holding time (HT) \leq 15 minutes where the sample is received outside of HT, Calscience will adhere to its internal HT of 24 hours. In cases where sample analysis does not meet Calscience's internal HT, results will be appropriately qualified.



CHAIN OF CUSTODY RECORD

PAGE:

WO.# LAB USE ONLY

13-02-1709

TEL: (714) 895-5494 . FAX: (714) 894-7501

P.O. NO.:

Princeville Utilities Company, Inc.

PROJECT CONTACT:

Michael Loo

SAMPLER(S): (PRINT)

REQUESTED ANALYSES

[illegible]

Received by: (Signature/Affiliation)

Received by: (Signature/Affiliation)

Received by: (Signature/Affiliation)

Date: / /	Time: /
-----------	---------

Date: 7/7 Time:

Date: 10/11/10	Time: 10
----------------	----------

Page 6 of 9

06/01/10 Revision

T709

From: (808) 826-6100
Michael Loo
Princeville Utilities Company,
5-3541 Kuhio Highway, Suite 221
4261 Kekuanaoa Lane
Princeville, HI 96722

Origin ID: LIHA

FedEx
Express

J13101212190326

Ship Date: 27FEB13
ActWgt: 40.0 LB
CAD: 7665451/INET3370

Dims: 20 X 14 X 18 IN

SHIP TO: (714) 895-5494

BILL SENDER

Don Burley
Calscience Environmental Lab.
7440 LINCOLN WAY

GARDEN GROVE, CA 92841

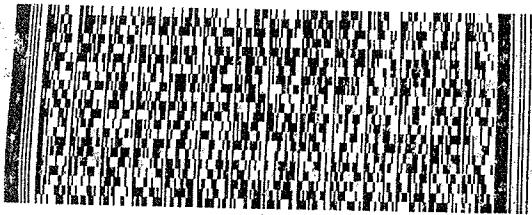
Delivery Address Bar Code



Ref #
Invoice #
PO #
Dept #

THU - 28 FEB 10:30A
PRIORITY OVERNIGHT

TRK# 7948 4471 4374
0201

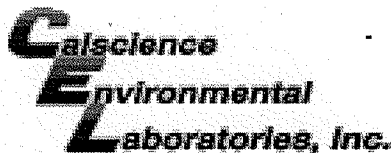


WZ APVA

92841
CA-US
SNA



518G2/DCF8/33AB



WORK ORDER #: 13-02-1709

SAMPLE RECEIPT FORMCooler 1 of 1CLIENT: Princeville UtilityDATE: 02/28/13**TEMPERATURE:** Thermometer ID: SC2 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)Temperature 4.8 °C - 0.2 °C (CF) = 4.6 °C ☒ Blank ☐ Sample☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.☐ Received at ambient temperature, placed on ice for transport by Courier.Ambient Temperature: ☐ Air ☐ FilterInitial: JP**CUSTODY SEALS INTACT:**☐ Cooler ☐ _____ ☐ No (Not Intact) ☒ Not Present ☐ N/AInitial: JP☐ Sample ☐ _____ ☐ No (Not Intact) ☒ Not PresentInitial: WRC**SAMPLE CONDITION:**

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Collection date/time, <u>matrix</u> , and/or # of containers logged in based on sample labels.			
<input type="checkbox"/> No analysis requested. <input checked="" type="checkbox"/> Not relinquished. <input checked="" type="checkbox"/> No date/time relinquished.			
Sampler's name indicated on COC.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and good condition.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Proper containers and sufficient volume for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analyses received within holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours...	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper preservation noted on COC or sample container.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE:Solid: ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (____) ☐ EnCores® ☐ TerraCores® ☐ _____Water: ☐ VOA ☐ VOA_h ☐ VOA_{na2} ☐ 125AGB ☐ 125AGB_h ☐ 125AGB_p ☒ 1AGB ☐ 1AGB_{na2} ☐ 1AGB_s☐ 500AGB ☐ 500AGJ ☐ 500AGJ_s ☐ 250AGB ☐ 250CGB ☐ 250CGB_s ☐ 1PB ☐ 1PB_{na} ☐ 500PB☐ 250PB ☐ 250PB_n ☐ 125PB ☐ 125PB_{znna} ☐ 100PJ ☐ 100PJ_{na2} ☐ _____ ☐ _____ ☐ _____Air: ☐ Tedlar® ☐ Canister Other: ☐ _____ Trip Blank Lot#: _____ Labeled/Checked by: WRCContainer: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: WRCPreservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure znna: ZnAc₂+NaOH f: Filtered Scanned by: WRC

WORK ORDER #: 13-02-1209

SAMPLE ANOMALY FORM

SAMPLES - CONTAINERS & LABELS:**Comments:**

- ☐ Sample(s) NOT RECEIVED but listed on COC
☐ Sample(s) received but NOT LISTED on COC
☐ Holding time expired – list sample ID(s) and test
☐ Insufficient quantities for analysis – list test
☐ Improper container(s) used – list test
☐ Improper preservative used – list test
☐ No preservative noted on COC or label – list test & notify lab
☐ Sample labels illegible – note test/container type
☐ Sample label(s) do not match COC – Note in comments
- ☐ Sample ID
☐ Date and/or Time Collected
☐ Project Information
☐ # of Container(s)
☐ Analysis
- ☒ Sample container(s) compromised – Note in comments
- ☐ Water present in sample container
☒ Broken
- ☐ Sample container(s) not labeled
☐ Air sample container(s) compromised – Note in comments
- ☐ Flat
☐ Very low in volume
☐ Leaking (Not transferred - duplicate bag submitted)
☐ Leaking (transferred into Calscience Tedlar® Bag*)
☐ Leaking (transferred into Client's Tedlar® Bag*)
- ☐ Other: _____

2, 3) received broken.

HEADSPACE – Containers with Bubble > 6mm or ¼ inch:

Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Cont. received	Analysis

Comments: _____

*Transferred at Client's request.

Initial / Date: WS 02/28/13



CALSCIENCE

WORK ORDER NUMBER: 13-03-0293

The difference is service



AIR :: SOIL :: WATER :: MARINE CHEMISTRY

Analytical Report For

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville Utilities Company, Inc.

Attention: Michael Loo
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Approved for release on 03/8/2013 by:
Don Burley
Project Manager

ResultLink ▶

Email your PM ▶



Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



Contents

Client Project Name: Princeville Utilities Company, Inc.

Work Order Number: 13-03-0293

1	Client Sample Data	3
1.1	EPA 508A (Aqueous)	3
2	Quality Control Sample Data	4
2.1	LCS/LCSD	4
3	Glossary of Terms and Qualifiers	5
4	Chain of Custody/Sample Receipt Form	6

Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Date Received: 03/06/13
Work Order No: 13-03-0293
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville Utilities Company, Inc.

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Skim Sample	13-03-0293-1-A	03/05/13 08:00	Aqueous	GC 44	03/08/13	03/08/13 15:04	130308L21

Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	8.7	2.5	10		ug/L

Water (tap at 411)	13-03-0293-2-A	03/05/13 08:20	Aqueous	GC 44	03/08/13	03/08/13 16:21	130308L21
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Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Makai Tennis Shop	13-03-0293-3-A	03/05/13 07:40	Aqueous	GC 44	03/08/13	03/08/13 16:35	130308L21
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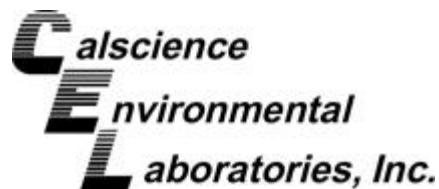
Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

St. Regis Pool Deck	13-03-0293-4-A	03/05/13 07:12	Aqueous	GC 44	03/08/13	03/08/13 16:51	130308L21
----------------------------	-----------------------	-----------------------	----------------	--------------	-----------------	-----------------------	------------------

Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Method Blank	099-14-541-15	N/A	Aqueous	GC 44	03/08/13	03/08/13 15:35	130308L21
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Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L



Quality Control - LCS/LCS Duplicate



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

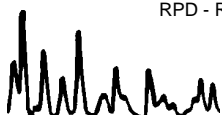
Date Received: N/A
Work Order No: 13-03-0293
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville Utilities Company, Inc.

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-541-15	Aqueous	GC 44	03/08/13	03/08/13	130308L21

Parameter	<u>SPIKE ADDED</u>	<u>LCS CONC</u>	<u>LCS %REC</u>	<u>LCSD CONC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Decachlorobiphenyl	0.6950	0.6655	96	0.7162	103	80-120	7	0-10	

RPD - Relative Percent Difference , CL - Control Limit



Glossary of Terms and Qualifiers

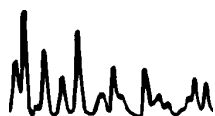


Work Order Number: 13-03-0293

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

For any analysis identified as a "field" test with a holding time (HT) ≤ 15 minutes where the sample is received outside of HT, Calscience will adhere to its internal HT of 24 hours. In cases where sample analysis does not meet Calscience's internal HT, results will be appropriately qualified.





CHAIN OF CUSTODY RECORD

7440 LINCOLN WAY

GARDEN GROVE, CA 92841-1427

TEL: (714) 895-5494 . FAX: (714) 894-7501


Environmental

laboratories, Inc.

DATE:

PAGE: _____ OF _____

WG #7 LAB USE ONLY

13-03-0293 ☐

[illegible]

0293

From: (808) 826-6100
Michael Loo
Princeville Utilities Company,
5-3541 Kuhio Highway, Suite 221
4261 Kekuanaoa Lane
Princeville, HI 96722

Origin ID: LIHA

FedEx
Express

J13101212190326

Ship Date: 05MAR13
ActWgt: 40.0 LB
CAD: 7665451/NET3370

Dims: 11 X 20 X 14 IN

Delivery Address Bar Code



SHIP TO: (714) 895-5494

BILL SENDER

Don Burley
Calscience Environmental Lab.
7440 LINCOLN WAY

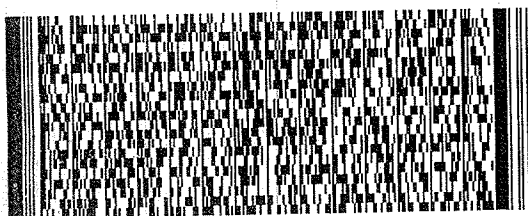
GARDEN GROVE, CA 92841

Ref #
Invoice #
PO #
Dept #

WED - 06 MAR 10:30A
PRIORITY OVERNIGHT

TRK# 7948 9487 2650

0201



WZ APVA

92841
CA-US
SNA



518G2/DCF8/93AB

WORK ORDER #: **13-03-0293****SAMPLE RECEIPT FORM**Cooler 1 of 1CLIENT: Princetonville UtilityDATE: 03/06/13**TEMPERATURE:** Thermometer ID: SC2 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)Temperature 5.4 °C - 0.2 °C (CF) = 5.2 °C ☒ Blank ☐ Sample☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.☐ Received at ambient temperature, placed on ice for transport by Courier.Ambient Temperature: ☐ Air ☐ FilterInitial: JP**CUSTODY SEALS INTACT:**☐ Cooler ☐ _____ ☐ No (Not Intact) ☒ Not Present ☐ N/AInitial: JP☐ Sample ☐ _____ ☐ No (Not Intact) ☒ Not PresentInitial: JP**SAMPLE CONDITION:**

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COC document(s) received complete.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--	--------------------------	-------------------------------------	--------------------------

☒ Collection date/time (matrix, and/or # of containers logged in based on sample labels).☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.

Sampler's name indicated on COC.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Sample container label(s) consistent with COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Sample container(s) intact and good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Proper containers and sufficient volume for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Analyses received within holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours...	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Proper preservation noted on COC or sample container.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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☐ Unpreserved vials received for Volatiles analysis

Volatile analysis container(s) free of headspace.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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CONTAINER TYPE:Solid: ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (____) ☐ EnCores® ☐ TerraCores® ☐ _____Water: ☐ VOA ☐ VOA_h ☐ VOA_{na2} ☐ 125AGB ☐ 125AGB_h ☐ 125AGB_p ☒ 1AGB ☐ 1AGB_{na2} ☐ 1AGB_s☐ 500AGB ☐ 500AGJ ☐ 500AGJs ☐ 250AGB ☐ 250CGB ☐ 250CGB_s ☐ 1PB ☐ 1PB_{na} ☐ 500PB☐ 250PB ☐ 250PB_n ☐ 125PB ☐ 125PB_{znna} ☐ 100PJ ☐ 100PJ_{na2} ☐ _____ ☐ _____ ☐ _____Air: ☐ Tedlar® ☐ Canister Other: ☐ _____ Trip Blank Lot#: _____ Labeled/Checked by: JPContainer: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: JPPreservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure znna: ZnAc₂+NaOH f: Filtered Scanned by: JP



CALSCIENCE

WORK ORDER NUMBER: 13-03-0933

The difference is service



AIR :: SOIL :: WATER :: MARINE CHEMISTRY

Analytical Report For

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville Utilities Company, Inc.

Attention: Michael Loo
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Approved for release on 03/18/2013 by:
Don Burley
Project Manager

ResultLink ▶

Email your PM ▶



Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



Contents

Client Project Name: Princeville Utilities Company, Inc.

Work Order Number: 13-03-0933

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1.1	EPA 508A (Aqueous)	3
2	Quality Control Sample Data	5
2.1	LCS/LCSD	5
3	Glossary of Terms and Qualifiers	6
4	Chain of Custody/Sample Receipt Form	7

Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Date Received: 03/14/13
Work Order No: 13-03-0933
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville Utilities Company, Inc.

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Skim Sample	13-03-0933-1-A	03/13/13 11:20	Aqueous	GC 44	03/14/13	03/15/13 19:04	130314L21

Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	3.7	2.5	10		ug/L

Ranch	13-03-0933-2-A	03/13/13 11:05	Aqueous	GC 44	03/14/13	03/15/13 19:18	130314L21
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Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Makai Tennis Shop	13-03-0933-3-A	03/13/13 10:50	Aqueous	GC 44	03/14/13	03/15/13 19:32	130314L21
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Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	0.26	0.25	1		ug/L

St. Regis Pool Deck	13-03-0933-4-A	03/13/13 10:30	Aqueous	GC 44	03/14/13	03/15/13 19:46	130314L21
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Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Well #2 Pre-clor	13-03-0933-5-A	03/13/13 10:00	Aqueous	GC 44	03/14/13	03/15/13 20:01	130314L21
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Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	0.93	0.25	1		ug/L

Well #2 Post-clor	13-03-0933-6-A	03/13/13 09:50	Aqueous	GC 44	03/14/13	03/15/13 20:15	130314L21
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Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	1.7	0.25	1		ug/L

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Analytical Report



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

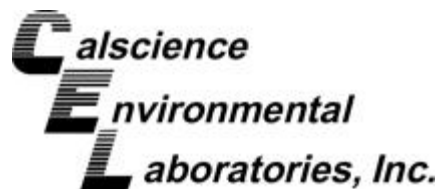
Date Received: 03/14/13
Work Order No: 13-03-0933
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville Utilities Company, Inc.

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-14-541-16	N/A	Aqueous	GC 44	03/14/13	03/15/13 18:21	130314L21

Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L



Quality Control - LCS/LCS Duplicate



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

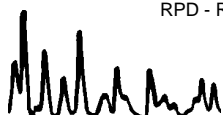
Date Received: N/A
Work Order No: 13-03-0933
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville Utilities Company, Inc.

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-541-16	Aqueous	GC 44	03/14/13	03/15/13	130314L21

Parameter	<u>SPIKE ADDED</u>	<u>LCS CONC</u>	<u>LCS %REC</u>	<u>LCSD CONC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Decachlorobiphenyl	0.6950	0.7184	103	0.7973	115	80-120	10	0-10	

RPD - Relative Percent Difference , CL - Control Limit



Glossary of Terms and Qualifiers

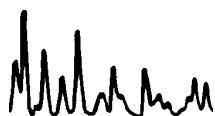


Work Order Number: 13-03-0933

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

For any analysis identified as a "field" test with a holding time (HT) \leq 15 minutes where the sample is received outside of HT, Calscience will adhere to its internal HT of 24 hours. In cases where sample analysis does not meet Calscience's internal HT, results will be appropriately qualified.



ORIGIN ID:LIHA

SHIP DATE: 13MAR13
ACTWGT: 33.0 LB MAN
CAD: /POS1400
DIMS: 22x13x11 IN
BILL RECIPIENT

Page 8 of 11

UNITED STATES US

DON BURLEY
CALSCIENCE ENVIRONMENTAL LABS
7440 LINCOLN WAY

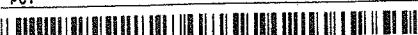
GARDEN GROVE CA 92841

(714) 896-5494

REF:

INV:

DEPT:



FedEx
Express



J13101212190126

2 of 2

MPS# 7957 6845 5355

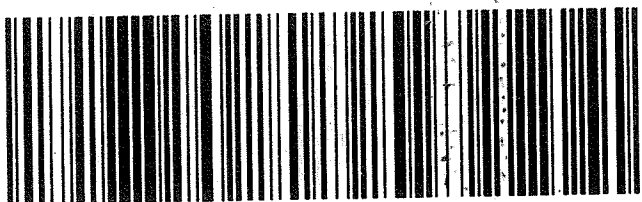
Mstr# 8022 2817 5438

0200

THU - 14 MAR 8:00A
FIRST OVERNIGHT

W1 APVA

92841
CA-US SNA



ORIGIN ID:LIHA

SHIP DATE: 13MAR
ACTWGT: 33.0 LB MAN
CAD: /POS1400
DIMS: 22x13x11 IN
BILL RECIPIENT

UNITED STATES US

TO DON BURLEY
CALSCIENCE ENVIRONMENTAL LABS
7440 LINCOLN WAY

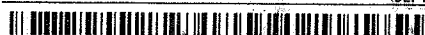
GARDEN GROVE CA 92841

(714) 896-5494

REF:

INV:

DEPT:



FedEx
Express



J13101212190126

1 of 2

TRK# 8022 2817 5438

MASTER

W1 APVA

THU - 14 MAR 8:00A
FIRST OVERNIGHT

92841
CA-US SNA



Return to Contents

WORK ORDER #: 13-03-0933

SAMPLE RECEIPT FORMCooler 1 of 2CLIENT: Princeton Utilities Co.DATE: 03/14/13**TEMPERATURE:** Thermometer ID: SC2 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)Temperature 3.0 °C - 0.2 °C (CF) = 2.8 °C ☒ Blank ☐ Sample☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.☐ Received at ambient temperature, placed on ice for transport by Courier.Ambient Temperature: ☐ Air ☐ FilterInitial: WB**CUSTODY SEALS INTACT:**☐ Cooler ☐ _____ ☐ No (Not Intact) ☒ Not Present ☐ N/AInitial: WB☐ Sample ☐ _____ ☐ No (Not Intact) ☒ Not PresentInitial: NC**SAMPLE CONDITION:**Chain-Of-Custody (COC) document(s) received with samples..... ☒ Yes ☐ No ☐ N/ACOC document(s) received complete..... ☒ Yes ☐ No ☐ N/A☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.Sampler's name indicated on COC..... ☒ Yes ☐ No ☐ N/ASample container label(s) consistent with COC..... ☒ Yes ☐ No ☐ N/ASample container(s) intact and good condition..... ☒ Yes ☐ No ☐ N/AProper containers and sufficient volume for analyses requested..... ☒ Yes ☐ No ☐ N/AAnalyses received within holding time..... ☒ Yes ☐ No ☐ N/ApH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours... ☐ Yes ☐ No ☒ N/AProper preservation noted on COC or sample container..... ☒ Yes ☐ No ☐ N/A☐ Unpreserved vials received for Volatiles analysisVolatile analysis container(s) free of headspace..... ☐ Yes ☐ No ☒ N/ATedlar bag(s) free of condensation..... ☐ Yes ☐ No ☒ N/A**CONTAINER TYPE:**Solid: ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (____) ☐ EnCores® ☐ TerraCores® ☐ _____Water: ☐ VOA ☐ VOA_h ☐ VOA_{na2} ☐ 125AGB ☐ 125AGB_h ☐ 125AGB_p ☒ 1AGB ☐ 1AGB_{na2} ☐ 1AGBs☐ 500AGB ☐ 500AGJ ☐ 500AGJs ☐ 250AGB ☐ 250CGB ☐ 250CGBs ☐ 1PB ☐ 1PB_{na} ☐ 500PB☐ 250PB ☐ 250PB_n ☐ 125PB ☐ 125PB_{znna} ☐ 100PJ ☐ 100PJ_{na2} ☐ _____ ☐ _____ ☐ _____Air: ☐ Tedlar® ☐ Canister Other: ☐ _____ Trip Blank Lot#: _____ Labeled/Checked by: NCContainer: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: EBPreservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure znna: ZnAc₂+NaOH f: Filtered Scanned by: EB

WORK ORDER #: 13-03-0933

SAMPLE RECEIPT FORMCooler 2 of 2CLIENT: RANCEVILLE UTILITIES CO.DATE: 03/14/13**TEMPERATURE:** Thermometer ID: SC2 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)Temperature 3.5 °C - 0.2 °C (CF) = 3.3 °C ☒ Blank ☐ Sample☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.☐ Received at ambient temperature, placed on ice for transport by Courier.Ambient Temperature: ☐ Air ☐ FilterInitial: WB**CUSTODY SEALS INTACT:**☐ Cooler ☐ _____ ☐ No (Not Intact) ☒ Not Present ☐ N/AInitial: WB☐ Sample ☐ _____ ☐ No (Not Intact) ☒ Not PresentInitial: NC**SAMPLE CONDITION:**

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.Sampler's name indicated on COC..... ☒ ☐ ☐Sample container label(s) consistent with COC..... ☒ ☐ ☐Sample container(s) intact and good condition..... ☐ ☒ ☐Proper containers and sufficient volume for analyses requested..... ☒ ☐ ☐Analyses received within holding time..... ☒ ☐ ☐pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours... ☐ ☐ ☒Proper preservation noted on COC or sample container..... ☒ ☐ ☐☐ Unpreserved vials received for Volatiles analysisVolatile analysis container(s) free of headspace..... ☐ ☐ ☒Tedlar bag(s) free of condensation..... ☐ ☐ ☒**CONTAINER TYPE:**Solid: ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (____) ☐ EnCores® ☐ TerraCores® ☐ _____Water: ☐ VOA ☐ VOA_h ☐ VOA_{na2} ☐ 125AGB ☐ 125AGB_h ☐ 125AGB_p ☒ 1AGB ☐ 1AGB_{na2} ☐ 1AGBs☐ 500AGB ☐ 500AGJ ☐ 500AGJs ☐ 250AGB ☐ 250CGB ☐ 250CGBs ☐ 1PB ☐ 1PB_{na} ☐ 500PB☐ 250PB ☐ 250PB_n ☐ 125PB ☐ 125PB_{znna} ☐ 100PJ ☐ 100PJ_{na2} ☐ _____ ☐ _____ ☐ _____Air: ☐ Tedlar® ☐ Canister Other: ☐ _____ Trip Blank Lot#: _____ Labeled/Checked by: NC

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope

Reviewed by: EPreservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure znna: ZnAc₂+NaOH f: FilteredScanned by: E

WORK ORDER #: 13-03-0933

SAMPLE ANOMALY FORM

SAMPLES - CONTAINERS & LABELS:
Comments:

- ☐ Sample(s) NOT RECEIVED but listed on COC
☐ Sample(s) received but NOT LISTED on COC
☐ Holding time expired – list sample ID(s) and test
☐ Insufficient quantities for analysis – list test
☐ Improper container(s) used – list test
☐ Improper preservative used – list test
☐ No preservative noted on COC or label – list test & notify lab
☐ Sample labels illegible – note test/container type
☐ Sample label(s) do not match COC – Note in comments
 - ☐ Sample ID
 - ☐ Date and/or Time Collected
 - ☐ Project Information
 - ☐ # of Container(s)
 - ☐ Analysis☒ Sample container(s) compromised – Note in comments
 - ☐ Water present in sample container
 - ☒ Broken☐ Sample container(s) not labeled
☐ Air sample container(s) compromised – Note in comments
 - ☐ Flat
 - ☐ Very low in volume
 - ☐ Leaking (Not transferred - duplicate bag submitted)
 - ☐ Leaking (transferred into Calscience Tedlar® Bag*)
 - ☐ Leaking (transferred into Client's Tedlar® Bag*)☐ Other: _____

1 of 2 bottles received broken:
 (-2) Ranch 9849
 (-5) Well #2 Pre-clor 9827
 (-6) Well #2 Post-clor 9828

HEADSPACE – Containers with Bubble > 6mm or ¼ inch:

Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Cont. received	Analysis

Comments: _____

*Transferred at Client's request.

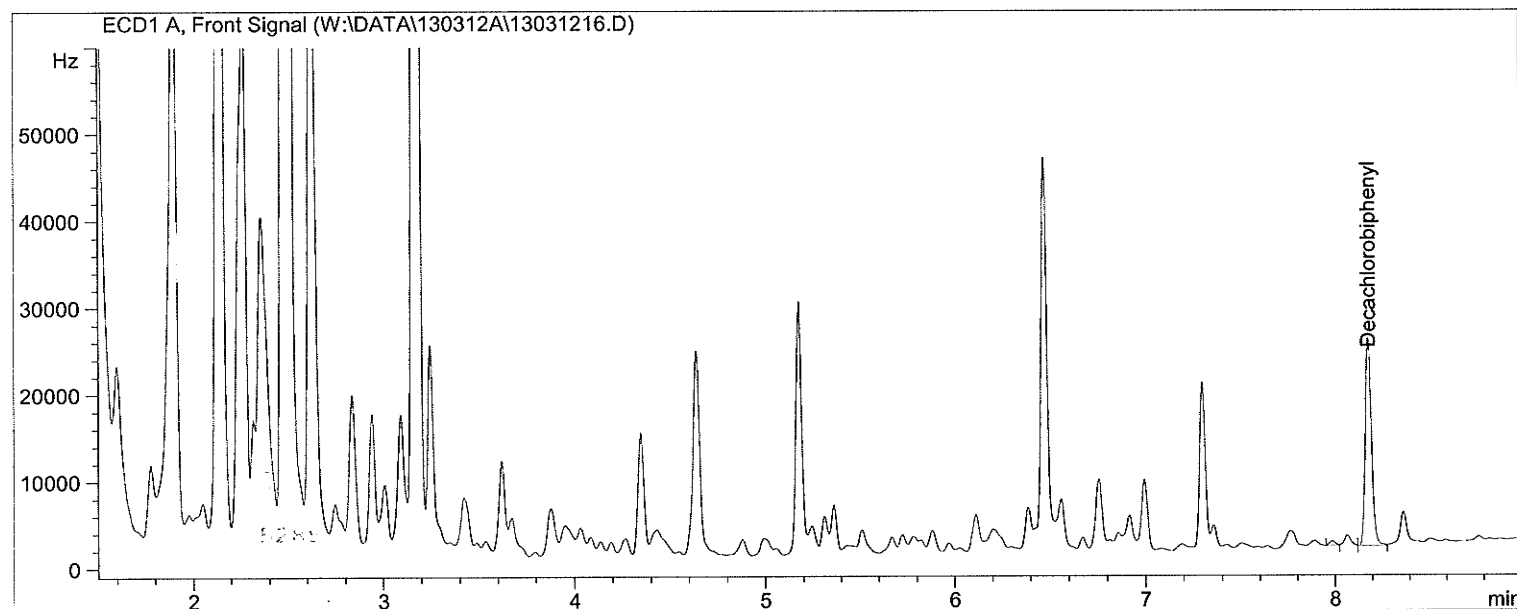
Initial / Date: NC 03/14/13

External Standard Report

Data File Name : W:\DATA\130312A\13031216.D
 Operator : 421 Vial Number : Vial 15
 Instrument : GC 44 Sequence Line : 17
 Sample Name : 13-03-0512-1A
 Running Method : C:\CHEM32\1\METHODS\8081D-N->Report Style : PEST-F
 Acquired on : 12 Mar 13 02:27 pm Method : EPA 8081A
 Report Created on: 12 Mar 13 03:46 pm Software Version : Rev. B.03.01 [317]
 Comment : Copyright © Agilent
 Analysis Method : C:\CHEM32\1\METHODS\508A130308F.M Technologies

Sig. ECD1A, W:\DATA\130312A\13031216.D

Ret Time	Area	Type	Width	Ref #	ppb	Name
8.181	55285.3VB	0.035	75.184			Decachlorobiphenyl





CALSCIENCE

WORK ORDER NUMBER: 13-03-1506

The difference is service



AIR :: SOIL :: WATER :: MARINE CHEMISTRY

Analytical Report For

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville Utilities Company, Inc.

Attention: Michael Loo
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Approved for release on 03/26/2013 by:
Don Burley
Project Manager

ResultLink ▶

Email your PM ▶



Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



Contents

Client Project Name: Princeville Utilities Company, Inc.

Work Order Number: 13-03-1506

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1.1	EPA 508A (Aqueous)	3
2	Quality Control Sample Data	5
2.1	LCS/LCSD	5
3	Glossary of Terms and Qualifiers	6
4	Chain of Custody/Sample Receipt Form	7

Analytical Report



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Date Received: 03/21/13
Work Order No: 13-03-1506
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville Utilities Company, Inc.

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
St. Regis Pool Deck	13-03-1506-1-A	03/20/13 09:20	Aqueous	GC 44	03/22/13	03/26/13 09:27	130322L21

Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Makai Tennis Shop	13-03-1506-2-A	03/20/13 09:45	Aqueous	GC 44	03/22/13	03/26/13 09:41	130322L21
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Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

EPD at Ranch House	13-03-1506-3-A	03/20/13 10:05	Aqueous	GC 44	03/22/13	03/26/13 09:55	130322L21
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Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Well #2 Pre Chlorination	13-03-1506-4-A	03/20/13 08:30	Aqueous	GC 44	03/22/13	03/26/13 10:10	130322L21
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Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Well #2 Post Chlorination	13-03-1506-5-A	03/20/13 08:30	Aqueous	GC 44	03/22/13	03/26/13 10:24	130322L21
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Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Well #1 Pre Chlorination	13-03-1506-6-A	03/20/13 10:30	Aqueous	GC 44	03/22/13	03/26/13 10:38	130322L21
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Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	0.34	0.25	1		ug/L

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Analytical Report



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Date Received: 03/21/13
Work Order No: 13-03-1506
Preparation: EPA 508A
Method: EPA 508A

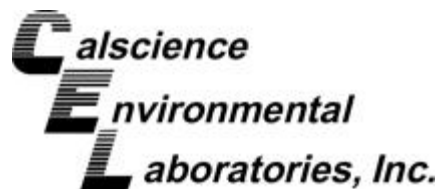
Project: Princeville Utilities Company, Inc.

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-14-541-17	N/A	Aqueous	GC 44	03/22/13	03/26/13 09:12	130322L21

Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Return to Contents



Quality Control - LCS/LCS Duplicate



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

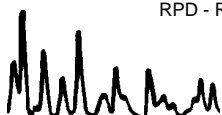
Date Received: N/A
Work Order No: 13-03-1506
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville Utilities Company, Inc.

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-541-17	Aqueous	GC 44	03/22/13	03/26/13	130322L21

Parameter	<u>SPIKE ADDED</u>	<u>LCS CONC</u>	<u>LCS %REC</u>	<u>LCSD CONC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Decachlorobiphenyl	0.6950	0.5596	81	0.5605	81	80-120	0	0-10	

RPD - Relative Percent Difference , CL - Control Limit



Glossary of Terms and Qualifiers

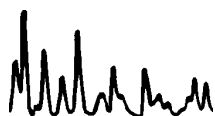


Work Order Number: 13-03-1506

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

For any analysis identified as a "field" test with a holding time (HT) \leq 15 minutes where the sample is received outside of HT, Calscience will adhere to its internal HT of 24 hours. In cases where sample analysis does not meet Calscience's internal HT, results will be appropriately qualified.



WG # / LAB USE ONLY
13-03-1506

LABORATORY CLIENT: Princeville Utilities Company, Inc.		CLIENT PROJECT NAME / NUMBER:	P.O. NO.:
ADDRESS: 5-3541 Kuhio Highway, Suite 221		PROJECT CONTACT: Michael Loo	SAMPLER(S): (PRINT) <u>Ben Owen</u>
CITY: Princeville	STATE: HI	ZIP: 96722	
TEL: 808-826-6100	E-MAIL: <u>mlloo@princeville.com</u>		

REQUESTED ANALYSES

TURNAROUND TIME:																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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SPECIAL INSTRUCTIONS:				Unpreserved			Preserved			Field Filtered																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
LAB. USE ONLY	SAMPLE ID	SAMPLING		MATRIX	NO. OF CONT.	TPH(g) or GRO	TPH(d) or DRO or (C6-C36) or (C6-C44)	TPH ()	BTEX / MTBE (826) or ()	VOCs (826)	Oxygenates (826)	En Core / Terra Core Prep (5035)	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PNAs (8310) or (8270)	T22 Metals (6010/747X)	Cr(VI) [7196 or 7199 or 2186]	PCBs (508A)	PCBs (8082)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												

Relinquished by: (Signature) <u>[Signature]</u>	Received by: (Signature/Affiliation) <u>[Signature]</u>	Date: <u>3/29/13</u>	Time: <u>12:00pm</u>
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: <u>3/21/13</u>	Time: <u>1355</u>
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

SHIP TO: (714) 895-5494

BILL SENDER

Don Burley

CalScience Environmental Lab.
7440 LINCOLN WAY

GARDEN GROVE, CA 92841

J13111302120326

Ref #
Invoice #
PO #
Dept #

Page 8 of 11

1506

THU - 21 MAR 10:30A

TF
0

FedEx

TRK#

0201

7993 2018 4099

PRIORITY OVERNIGHT

10:30A

92 APVA

92841

CA-US

SNA



Emp# 52621 21MAR13 JGXA 519C2/DCF8/93AB

RT 0
FZ 0

From: (808) 826-6100
Michael Loo
Princeville Utilities Company,
5-3541 Kuhio Highway, Suite 221
4261 Kekuanaoa Lane
Princeville, HI 96722

Origin ID: LIHA

FedEx
Express



J13111302120326

Ship Date: 20MAR13
ActWgt: 40.0 LB
CAD: 7665451/INET3370

Dims: 24 X 13 X 14 IN

Delivery Address Bar Code



SHIP TO: (714) 895-5494

BILL SENDER

Don Burley

CalScience Environmental Lab.
7440 LINCOLN WAY

GARDEN GROVE, CA 92841

Ref #
Invoice #
PO #
Dept #

THU - 21 MAR 10:30A
PRIORITY OVERNIGHT

TRK# 7993 2018 8142
0201

92841

CA-US

SNA

WZ APVA

WORK ORDER #: **13-03-1506****SAMPLE RECEIPT FORM**Cooler 1 of 2CLIENT: PRINCEVILLEDATE: 03/21/13**TEMPERATURE:** Thermometer ID: SC2 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)Temperature 3.7 °C - 0.2 °C (CF) = 3.5 °C ☐ Blank ☒ Sample☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.☐ Received at ambient temperature, placed on ice for transport by Courier.Ambient Temperature: ☐ Air ☐ FilterInitial: JN**CUSTODY SEALS INTACT:**☐ Cooler ☐ _____ ☐ No (Not Intact) ☒ Not Present ☐ N/AInitial: JN☐ Sample ☐ _____ ☐ No (Not Intact) ☒ Not PresentInitial: YL**SAMPLE CONDITION:**

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
<input type="checkbox"/> No analysis requested. <input type="checkbox"/> Not relinquished. <input type="checkbox"/> No date/time relinquished.			
Sampler's name indicated on COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC.....	<input checked="" type="checkbox"/> 3/21/13	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers and sufficient volume for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analyses received within holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours...	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper preservation noted on COC or sample container.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE:Solid: ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (____) ☐ EnCores® ☐ TerraCores® ☐ _____Water: ☐ VOA ☐ VOA_h ☐ VOA_{na2} ☐ 125AGB ☐ 125AGB_h ☐ 125AGB_p ☒ 1AGB ☐ 1AGB_{na2} ☐ 1AGB_s☐ 500AGB ☐ 500AGJ ☐ 500AGJ_s ☐ 250AGB ☐ 250CGB ☐ 250CGB_s ☐ 1PB ☐ 1PB_{na} ☐ 500PB☐ 250PB ☐ 250PB_n ☐ 125PB ☐ 125PB_{znna} ☐ 100PJ ☐ 100PJ_{na2} ☐ _____ ☐ _____ ☐ _____Air: ☐ Tedlar® ☐ Canister Other: ☐ _____ Trip Blank Lot#: _____ Labeled/Checked by: YLContainer: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: YLPreservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure znna: ZnAc₂+NaOH f: Filtered Scanned by: YL

WORK ORDER #: **13-03-1506****SAMPLE RECEIPT FORM**Cooler 2 of 2CLIENT: PRINCEVILLEDATE: 03/21/13**TEMPERATURE:** Thermometer ID: SC2 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)Temperature 3 . 9 °C - 0.2 °C (CF) = 3 . 7 °C ☐ Blank ☒ Sample☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.☐ Received at ambient temperature, placed on ice for transport by Courier.Ambient Temperature: ☐ Air ☐ FilterInitial: JN**CUSTODY SEALS INTACT:**☐ Cooler ☐ _____ ☐ No (Not Intact) ☒ Not Present ☐ N/AInitial: JN☐ Sample ☐ _____ ☐ No (Not Intact) ☒ Not PresentInitial: YC**SAMPLE CONDITION:**

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
<input type="checkbox"/> No analysis requested. <input type="checkbox"/> Not relinquished. <input type="checkbox"/> No date/time relinquished.			
Sampler's name indicated on COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC.....	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers and sufficient volume for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analyses received within holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours...	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper preservation noted on COC or sample container.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE:Solid: ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (____) ☐ EnCores® ☐ TerraCores® ☐ _____Water: ☐ VOA ☐ VOA_h ☐ VOA_{na2} ☐ 125AGB ☐ 125AGB_h ☐ 125AGB_p ☒ 1AGB ☐ 1AGB_{na2} ☐ 1AGB_s☐ 500AGB ☐ 500AGJ ☐ 500AGJ_s ☐ 250AGB ☐ 250CGB ☐ 250CGB_s ☐ 1PB ☐ 1PB_{na} ☐ 500PB☐ 250PB ☐ 250PB_n ☐ 125PB ☐ 125PB_{znna} ☐ 100PJ ☐ 100PJ_{na2} ☐ _____ ☐ _____ ☐ _____Air: ☐ Tedlar® ☐ Canister Other: ☐ _____ Trip Blank Lot#: _____ Labeled/Checked by: YCContainer: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: YCPreservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure znna: ZnAc₂+NaOH f: Filtered Scanned by: YC

WORK ORDER #: 13-03-1506

SAMPLE ANOMALY FORM

SAMPLES - CONTAINERS & LABELS:

Comments:

- ☐ Sample(s) NOT RECEIVED but listed on COC
☐ Sample(s) received but NOT LISTED on COC
☐ Holding time expired – list sample ID(s) and test
☐ Insufficient quantities for analysis – list test
☐ Improper container(s) used – list test
☐ Improper preservative used – list test
☐ No preservative noted on COC or label – list test & notify lab
☐ Sample labels illegible – note test/container type
☒ Sample label(s) do not match COC – Note in comments
- ☐ Sample ID
☒ Date and/or Time Collected
☐ Project Information
☐ # of Container(s)
☐ Analysis
- ☐ Sample container(s) compromised – Note in comments
- ☐ Water present in sample container
☐ Broken
- ☐ Sample container(s) not labeled
- ☐ Air sample container(s) compromised – Note in comments
- ☐ Flat
☐ Very low in volume
☐ Leaking (Not transferred - duplicate bag submitted)
☐ Leaking (transferred into Calscience Tedlar® Bag*)
☐ Leaking (transferred into Client's Tedlar® Bag*)
- ☐ Other: _____

(-1) through (-6) Collection
 date per label is
 3/21/13.

HEADSPACE – Containers with Bubble > 6mm or ¼ inch:

Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Cont. received	Analysis

Comments: _____

*Transferred at Client's request.

Initial / Date: hcl 03/21/13


CERTIFICATE OF ANALYSIS
Reported by Alloway - Marion

 Princeville Utilities Company Inc.
 Attn: Michael Loo
 5-3541 Kuhio Highway, Suite 221
 Princeville, Hawaii 96722

Chain of Custody attached

Lab Project # M13-13545

Received: 3/22/2013

Reported: 3/28/2013

Date/Time Sampled: 03/20/2013 09:25

Sampled By: Unknown

Sampled Matrix: Water

Containers: 2

Collection Method: Grab

Project Name: Princeville Utilities Company Inc.

Sample ID: St. Regis Pool Deck

Lab Sample # M13-13545-01

Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
PCBs as Decachlorobiphenyl (DCB)	<0.10	ug/L	0.10	EPA-508A	EPA-508A	RDK	03/22/2013	03/23/2013 10:50

Analysis Certified By:



Rhonda C Morris

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 800.436.1243

 508 Bissman Ct. • Mansfield, Ohio 44903
 419.525.1644 • Fax 419.524.5575
 800.635.3222

 1776 Marion-Waldo Rd. • Marion, Ohio 43302
 740.389.5991 • Fax 740.389.1481
 800.873.2835

CERTIFICATE OF ANALYSIS
Reported by Alloway - Marion

Chain of Custody attached

 Princeville Utilities Company Inc.
 Attn: Michael Loo
 5-3541 Kuhio Highway, Suite 221
 Princeville, Hawaii 96722

Lab Project # M13-13545
Received: 3/22/2013
Reported: 3/28/2013
Date/Time Sampled: 03/20/2013 09:40
Sampled By: Unknown
Sampled Matrix: Water
Containers: 2
Collection Method: Grab

Project Name: Princeville Utilities Company Inc.

Sample ID: Makai Tennis Shop

Lab Sample # M13-13545-02

Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
PCBs as Decachlorobiphenyl (DCB)	<0.10	ug/L	0.10	EPA-508A	EPA-508A	RDK	03/22/2013	03/23/2013 12:37

Analysis Certified By:



Rhonda C Morris

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CERTIFICATE OF ANALYSIS
Reported by Alloway - Marion

Chain of Custody attached

 Princeville Utilities Company Inc.
 Attn: Michael Loo
 5-3541 Kuhio Highway, Suite 221
 Princeville, Hawaii 96722

Lab Project # M13-13545
Received: 3/22/2013
Reported: 3/28/2013
Date/Time Sampled: 03/20/2013 10:00
Sampled By: Unknown
Sampled Matrix: Water
Containers: 2
Collection Method: Grab

Project Name: Princeville Utilities Company Inc.

Sample ID: EPD At Ranch House

Lab Sample # M13-13545-03

Results of the method 508 Arochlor Screen indicates the presence of trace levels of Arochlor 1254, confirming the result for Method 508A.

Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
PCBs as Decachlorobiphenyl (DCB)	0.12	ug/L	0.10	EPA-508A	EPA-508A	RDK	03/22/2013	03/23/2013 13:13

Analysis Certified By:



Rhonda C Morris

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CERTIFICATE OF ANALYSIS
Reported by Alloway - Marion

Chain of Custody attached

 Princeville Utilities Company Inc.
 Attn: Michael Loo
 5-3541 Kuhio Highway, Suite 221
 Princeville, Hawaii 96722

Lab Project # M13-13545
Received: 3/22/2013
Reported: 3/28/2013
Date/Time Sampled: 03/20/2013 08:20
Sampled By: Unknown
Sampled Matrix: Water
Containers: 2
Collection Method: Grab

Project Name: Princeville Utilities Company Inc.

Sample ID: Well #2 Pre Chlorination

Lab Sample # M13-13545-04

Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
PCBs as Decachlorobiphenyl (DCB)	<0.10	ug/L	0.10	EPA-508A	EPA-508A	RDK	03/22/2013	03/23/2013 13:49

Analysis Certified By:



Rhonda C Morris

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CERTIFICATE OF ANALYSIS
Reported by Alloway - Marion

Chain of Custody attached

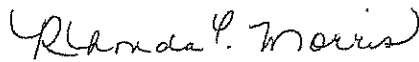
Princeville Utilities Company Inc.
Attn: Michael Loo
5-3541 Kuhio Highway, Suite 221
Princeville, Hawaii 96722

Lab Project # M13-13545
Received: 3/22/2013
Reported: 3/28/2013
Date/Time Sampled: 03/20/2013 08:30
Sampled By: Unknown
Sampled Matrix: Water
Containers: 2
Collection Method: Grab

Project Name: Princeville Utilities Company Inc.**Sample ID:** Well #2 Post Chlorination**Lab Sample #** M13-13545-05

Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
PCBs as Decachlorobiphenyl (DCB)	<0.10	ug/L	0.10	EPA-508A	EPA-508A	RDK	03/22/2013	03/23/2013 14:25

Analysis Certified By: _____



Rhonda C Morris

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CERTIFICATE OF ANALYSIS
Reported by Alloway - Marion

Chain of Custody attached

 Princeville Utilities Company Inc.
 Attn: Michael Loo
 5-3541 Kuhio Highway, Suite 221
 Princeville, Hawaii 96722

Lab Project # M13-13545
Received: 3/22/2013
Reported: 3/28/2013
Date/Time Sampled: 03/20/2013 10:30
Sampled By: Unknown
Sampled Matrix: Water
Containers: 2
Collection Method: Grab

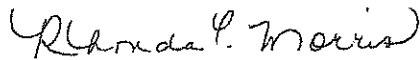
Project Name: Princeville Utilities Company Inc.

Sample ID: Well #1 Pre Chlorination

Lab Sample # M13-13545-06

Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
PCBs as Decachlorobiphenyl (DCB)	<0.10	ug/L	0.10	EPA-508A	EPA-508A	RDK	03/22/2013	03/23/2013 14:25

Analysis Certified By:



Rhonda C Morris

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CERTIFICATE OF ANALYSIS
Reported by Alloway - Marion

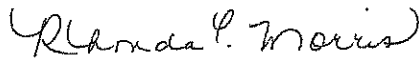
Chain of Custody attached

Princeville Utilities Company Inc.
Attn: Michael Loo
5-3541 Kuhio Highway, Suite 221
Princeville, Hawaii 96722

Lab Project # M13-13545**Received:** 3/22/2013**Reported:** 3/28/2013**Date Sampled:** 03/14/2013**Sampled By:** Unknown**Sampled Matrix:****Containers:****Collection Method:** -**Project Name:** Princeville Utilities Company Inc.**Sample ID:** Shipping Cost**Lab Sample #** M13-13545-07

Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
---------	---------	-------	-----	--------------------	-------------------	---------	-----------------	--------------------

Analysis Certified By: _____



Rhonda C Morris

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800.873.2835



Chain of Custody Record

This is a legal document that authorizes Alloway to perform testing on samples submitted under this agreement.

- 1101 North Cole Street, Lima, OH 45805
(P) 419-223-1362 (F) 419-227-3792
1776 Marion-Waldo Road, Marion OH 43302
(P) 740-389-6991 (F) 740-389-1481
508 Blissman Court, Mansfield, OH 44803
(P) 419-525-1644 (F) 419-524-5575

Report To: Name: Michael Loo Company: Princeville Utilities Company, Inc. Address: 5-3541 Kuhio Highway, Suite 221 Pineville, Hawaii 96722		Invoice To (If Different): Name: Company: Address:		Project: M13-13545 							
Phone #: 808-826-6100, Ext. 20		Fax #: 808-827-8019									
E-mail: mloo@princeville.com		PO#:									
Project Name Princeville Utilities Company, Inc.				Turnaround: (Rush Charges May Apply) Next Day <input type="checkbox"/> 3 Working Days <input type="checkbox"/> 2 Working Days <input checked="" type="checkbox"/> 5 Working Days <input type="checkbox"/> Routine <input type="checkbox"/>							
Sampler											
<small>(Print)</small>				<small>(Signature)</small>							
	Customer Sample ID / Sample Location	Sample Date	Sample Time	Composite	Grab	Matrix Code	Number of Containers	Preservation Code #	Analysts Required	Alloway LIMS # For Lab Use Only	
1	St. Regis Pool Deck	3-20-13	9:25		✓				PCB 508A	01	
2	Makai Tennis Shop	3-20-13	9:40		✓				PCB 508A	02	
3	EPd at Ranch House	3-20-13	10:00		✓				PCB 508A	03	
4	Well #2 Pre Chlorination	3-20-13	8:20		✓				PCB 508A	04	
5	Well #2 Post Chlorination	3-20-13	8:30		✓				PCB 508A	05	
6	Well #1 Pre Chlorination	3-20-13	10:40		✓				PCB 508A	06	
7											
8											
Relinquished by:		Received by:		Date	Time	Method of Delivery	Matrix Codes:	Preservation Codes:	Sample Receiving (For Lab Use Only)		
1				3/20/13	10:50	UPS <input type="checkbox"/>	ww - wastewater gw - groundwater	1 - None 7 - Sodium Thiosulfate 13 - Zinc Acetate	Ice Present? <input checked="" type="checkbox"/> <input type="checkbox"/> Proper Preservation? <input type="checkbox"/> <input checked="" type="checkbox"/> Container Temperature: 4.9/5.1		
2				3/20/13	12:00	Fed Ex <input checked="" type="checkbox"/>	dw - drinking water sw - surface water	2 - HNO ₃ 8 - Ascorbic Acid 14 - Sodium Sulfite			
3						Client <input type="checkbox"/>	w - water oil - oil	3 - H ₂ SO ₄ 9 - Maleic Acid 15 - Potassium Dihydrogen Citrate			
4						Alloway Pick Up <input type="checkbox"/>	s - solid sg - sludge	4 - HCl 10 - EDA 16 - Sodium Sulfite/Sodium Bisulfate			
5						Alloway Sampling <input type="checkbox"/>	l - leachate a - acid	5 - NaOH 11 - Ammonium Chloride			
6						Other <input type="checkbox"/>	p - product o - other	6 - NaOH & Zinc Acetate 12 - (NH ₄) ₂ SO ₄ & NH ₄ OH			
Received for Laboratory By: (circle one): Mansfield Lima <u>Marion</u>											
(Signature)				3/22/13 1000							

Transported to: Lima
Marion

By: _____

Received By: _____

Date: _____

Time: _____

Transported to: Lima
Marion

By: _____

Received By: _____

Date: _____

Time: _____

M13-13545

Form 6000-1

ALLOWAY

CONTAINER ORDER REQUEST FORM

Company Name: Princeville Utilities Co Inc.Contact Name: Michael AooShipping Address: 5-3541 Kuhio Hwy
Suite 221
Princeville, HI 96722

Phone Number: _____ Fax Number: _____

Date Ordered: _____ Date Needed: _____

Analysis/Containers

*We
are
tracking
this
package

(4 sets) 508A

Double bubble bag

WPC

Sample Information

Number of Sample Sites: _____

Drinking Water ☐Chlorinated ☐Unchlorinated ☐Ground Water ☐Waste Water ☐3X26Y3 MAR 14, 2013 ALL CURR USD 1 OF 1
SVC GND COM ACT WT 14.1 LBS
TRACKING# 1Z3X26Y30343845504
REF 1:
REF 2:

EPA Reporting (Circle): Yes No

Customer to Pick Up (Circle): Yes No

Alloway to Ship (Circle): Yes No

Date Order Completed: _____

HANDLING CHARGE 0.00
SINGLE-PIECE PUB RATE CHRGs: SVC 70.89 USD
DV 0.00 COD 0.00 RS 0.00
DC 0.00 DGD 0.00 SD 0.00
AH 0.00 PR 0.00 SP 0.00
TOT PUB CHG 70.89 PUB+HANDLING 70.89

P.W.

Project #

M13-13545

Cooler Temp

4.9/5.1
C°

Form 6003-1

Analyst:

AVW

Sample ID	508 A				515.1				525.2				531.2		548.1				549.2		552.2			
	Bottle A		Bottle B		Bottle A		Bottle B		Bottle A		Bottle B		Bottle A		Bottle A		Bottle B		Bottle A		Bottle A		Bottle B	
	CL-T	pH	CL-T	pH	CL-T	pH	CL-T	pH	CL-T	pH	CL-T	pH	CL-T	pH	CL-T	pH	CL-T	pH	CL-T	pH	CL-F	pH	CL-F	pH
1	0.2	7	0.2	7																				
2	0.2	7	0.2	7																				
3	0.2	7	0.2	7																				
4	ND	7	ND	7																				
5	0.1	7	0.1	7																				
6	0.1	7	0.1	7																				
7																								
8																								
9																								
10																								

Sample ID	218.7		300.1		522				537	539
	Bottle A		Bottle A		Bottle A		Bottle B		Bottle A	Bottle A
	CL-F	pH	CL-F	pH	CL-T	pH	CL-T	pH	CL-F	CL-F
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

Expected pH ranges

508	Neutral
515	Neutral
525.2	<2
531.2	3 to 4
548.1	Neutral **
549.2	≤2
552.2	Neutral
218.7	>8
300.1	Neutral
522	<4

**Can be acidified to <2
if biological activity is present

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Honolulu

99-193 Aiea Heights Drive, Suite 121

Aiea, HI 96701

Tel: 808-486-5227

TestAmerica Job ID: HWC0112

Client Project/Site: Princeville Water System Tank

Client Project Description: Sampling of Opportunity (SOO)

For:

Department of Health, HEER Office

919 Ala Moana Boulevard, Room 206

Honolulu, HI 96814

Attn: Laura Young



Authorized for release by:

4/10/2013 9:40:44 AM

Kristie Reilly

Project Manager

Kristie.Brachmann@testamericainc.com

LINKS

Review your project
results through

Total Access

Have a Question?

? Ask
The
Expert

Visit us at:

www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

2

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14

Table of Contents

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Definitions/Glossary

Client: Department of Health, HEER Office
Project/Site: Princeville Water System Tank

TestAmerica Job ID: HWC0112

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
F	MS or MSD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Department of Health, HEER Office
Project/Site: Princeville Water System Tank

TestAmerica Job ID: HWC0112

Job ID: HWC0112

Laboratory: TestAmerica Honolulu

Narrative

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory unless otherwise stated in the report. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. TestAmerica Analytical Testing Corporation certifies that the analytical results contained herein apply only to the specific sample(s) analyzed.

The Chain(s) of Custody are included and are an integral part of this report. This entire report was reviewed and approved for release.

If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-(808)486-5227

LABORATORY REPORT

At sample receipt, the cooler/sample was 22 degrees C.

NELAC states that samples which require thermal preservation shall be considered acceptable if the arrival temperature is within 2 degrees C of the required temperature or the method specified range. For samples with a temperature requirement of 4 degrees C, an arrival temperature from 0 degrees C to 6 degrees C meets specifications. Samples that are delivered to the laboratory on the same day that they are collected may not meet these criteria. In these cases, the samples are considered acceptable if there is evidence that the chilling process has begun, such as arrival on ice.

The reported results were obtained in compliance with the 2003 NELAC standards unless otherwise noted.

Samples were prepared in accordance with the State of Hawai'i Department of Health Office of Hazard Evaluation and Emergency Response's Technical Guidance Manual for the Implementation of the Hawai'i State Contingency Plan 2009 edition Laboratory Preparation of Multi-Increment Samples.

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-41898-1

Comments

No additional comments.

Receipt

The samples were received on 3/26/2013 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.3° C.

GC Semi VOA

Method(s) 8081A: The continuing calibration verification (CCV) associated with Pesticide batch 95507 recovered outside acceptance criteria, biased low, for B-BHC. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8082: The following sample(s) required a dilution due to the nature of the sample matrix: HWC0112-02 (440-41898-2), HWC0112-03 (440-41898-3), HWC0112-04 (440-41898-4). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8082: Due to the high concentration of Aroclor 1254 in the source sample which co-eluted with Aroclor 1260 spike, the matrix spike / matrix spike duplicate (MS/MSD) calculation does not provide useful accuracy and precision information for PCB prep batch 95408. The associated laboratory control sample (LCS) met acceptance criteria.

Case Narrative

Client: Department of Health, HEER Office
Project/Site: Princeville Water System Tank

TestAmerica Job ID: HWC0112

Job ID: HWC0112 (Continued)

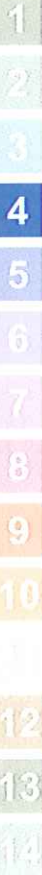
Laboratory: TestAmerica Irvine (Continued)

Method(s) 8082: The following sample(s) contained more than one Aroclor component: HWC0112-02 (440-41898-2), HWC0112-03 (440-41898-3), HWC0112-04 (440-41898-4), HWC0112-05 (440-41898-5). Results are estimated due to co-eluted peaks (Aroclor 1254 and Aroclor 1260).

No other analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.



Sample Summary

Client: Department of Health, HEER Office
Project/Site: Princeville Water System Tank

TestAmerica Job ID: HWC0112

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
HWC0112-01	PWST-DU-1	Solid/Soil	03/20/13 13:00	03/22/13 13:00
HWC0112-02	PWST-DU-2	Solid/Soil	03/20/13 13:00	03/22/13 13:00
HWC0112-03	PWST-DU-3	Solid/Soil	03/20/13 13:00	03/22/13 13:00
HWC0112-04	PWST-DU-4	Solid/Soil	03/20/13 13:00	03/22/13 13:00
HWC0112-05	PWST-DU-5	Solid/Soil	03/20/13 13:00	03/22/13 13:00
HWC0112-06	PWST-DU-6	Solid/Soil	03/20/13 13:00	03/22/13 13:00

Detection Summary

Client: Department of Health, HEER Office
Project/Site: Princeville Water System Tank

TestAmerica Job ID: HWC0112

Client Sample ID: PWST-DU-1

Lab Sample ID: HWC0112-01

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor 1260	0.027		0.025		mg/Kg	1		8082	Total/NA

Client Sample ID: PWST-DU-2

Lab Sample ID: HWC0112-02

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor 1254	6.0		2.5		mg/Kg	100		8082	Total/NA
Aroclor 1260	12		2.5		mg/Kg	100		8082	Total/NA

Client Sample ID: PWST-DU-3

Lab Sample ID: HWC0112-03

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor 1254	0.73		0.25		mg/Kg	10		8082	Total/NA
Aroclor 1260	1.2		0.25		mg/Kg	10		8082	Total/NA

Client Sample ID: PWST-DU-4

Lab Sample ID: HWC0112-04

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor 1254	1.6		0.49		mg/Kg	20		8082	Total/NA
Aroclor 1260	1.4		0.49		mg/Kg	20		8082	Total/NA

Client Sample ID: PWST-DU-5

Lab Sample ID: HWC0112-05

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chlordane (technical)	0.10		0.025		mg/Kg	1		8081A	Total/NA
Aroclor 1254	0.031		0.025		mg/Kg	1		8082	Total/NA
Aroclor 1260	0.029		0.025		mg/Kg	1		8082	Total/NA

Client Sample ID: PWST-DU-6

Lab Sample ID: HWC0112-06

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Honolulu

Client Sample Results

Client: Department of Health, HEER Office
Project/Site: Princeville Water System Tank

TestAmerica Job ID: HWC0112

Client Sample ID: PWST-DU-1

Date Collected: 03/20/13 13:00

Date Received: 03/22/13 13:00

Lab Sample ID: HWC0112-01

Matrix: Solid/Soil

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
4,4'-DDE	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
4,4'-DDT	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Aldrin	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
alpha-BHC	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
beta-BHC	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Chlordane (technical)	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
delta-BHC	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Dieldrin	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Endosulfan I	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Endosulfan II	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Endosulfan sulfate	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Endrin	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Endrin aldehyde	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Endrin ketone	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
gamma-BHC (Lindane)	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Heptachlor	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Heptachlor epoxide	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Methoxychlor	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Toxaphene	ND		0.099		mg/Kg		04/01/13 13:15	04/02/13 13:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	54		35 - 115	04/01/13 13:15	04/02/13 13:01	1
DCB Decachlorobiphenyl (Surr)	61		45 - 120	04/01/13 13:15	04/02/13 13:01	1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 07:34	1
Aroclor 1221	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 07:34	1
Aroclor 1232	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 07:34	1
Aroclor 1242	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 07:34	1
Aroclor 1248	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 07:34	1
Aroclor 1254	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 07:34	1
Aroclor 1260	0.027		0.025		mg/Kg		04/01/13 13:15	04/02/13 07:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	69		45 - 120	04/01/13 13:15	04/02/13 07:34	1

Client Sample ID: PWST-DU-2

Date Collected: 03/20/13 13:00

Date Received: 03/22/13 13:00

Lab Sample ID: HWC0112-02

Matrix: Solid/Soil

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		2.5		mg/Kg		04/01/13 13:15	04/02/13 08:04	100
Aroclor 1221	ND		2.5		mg/Kg		04/01/13 13:15	04/02/13 08:04	100
Aroclor 1232	ND		2.5		mg/Kg		04/01/13 13:15	04/02/13 08:04	100
Aroclor 1242	ND		2.5		mg/Kg		04/01/13 13:15	04/02/13 08:04	100
Aroclor 1248	ND		2.5		mg/Kg		04/01/13 13:15	04/02/13 08:04	100
Aroclor 1254	6.0		2.5		mg/Kg		04/01/13 13:15	04/02/13 08:04	100

TestAmerica Honolulu

Client Sample Results

Client: Department of Health, HEER Office
Project/Site: Princeville Water System Tank

TestAmerica Job ID: HWC0112

Client Sample ID: PWST-DU-2

Date Collected: 03/20/13 13:00

Date Received: 03/22/13 13:00

Lab Sample ID: HWC0112-02

Matrix: Solid/Soil

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1260	12		2.5		mg/Kg		04/01/13 13:15	04/02/13 08:04	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	289	X	45 - 120				04/01/13 13:15	04/02/13 08:04	100

Client Sample ID: PWST-DU-3

Date Collected: 03/20/13 13:00

Date Received: 03/22/13 13:00

Lab Sample ID: HWC0112-03

Matrix: Solid/Soil

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.25		mg/Kg		04/01/13 13:15	04/02/13 08:19	10
Aroclor 1221	ND		0.25		mg/Kg		04/01/13 13:15	04/02/13 08:19	10
Aroclor 1232	ND		0.25		mg/Kg		04/01/13 13:15	04/02/13 08:19	10
Aroclor 1242	ND		0.25		mg/Kg		04/01/13 13:15	04/02/13 08:19	10
Aroclor 1248	ND		0.25		mg/Kg		04/01/13 13:15	04/02/13 08:19	10
Aroclor 1254	0.73		0.25		mg/Kg		04/01/13 13:15	04/02/13 08:19	10
Aroclor 1260	1.2		0.25		mg/Kg		04/01/13 13:15	04/02/13 08:19	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	89		45 - 120				04/01/13 13:15	04/02/13 08:19	10

Client Sample ID: PWST-DU-4

Date Collected: 03/20/13 13:00

Date Received: 03/22/13 13:00

Lab Sample ID: HWC0112-04

Matrix: Solid/Soil

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.49		mg/Kg		04/01/13 13:15	04/02/13 08:34	20
Aroclor 1221	ND		0.49		mg/Kg		04/01/13 13:15	04/02/13 08:34	20
Aroclor 1232	ND		0.49		mg/Kg		04/01/13 13:15	04/02/13 08:34	20
Aroclor 1242	ND		0.49		mg/Kg		04/01/13 13:15	04/02/13 08:34	20
Aroclor 1248	ND		0.49		mg/Kg		04/01/13 13:15	04/02/13 08:34	20
Aroclor 1254	1.6		0.49		mg/Kg		04/01/13 13:15	04/02/13 08:34	20
Aroclor 1260	1.4		0.49		mg/Kg		04/01/13 13:15	04/02/13 08:34	20
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	74		45 - 120				04/01/13 13:15	04/02/13 08:34	20

Client Sample ID: PWST-DU-5

Date Collected: 03/20/13 13:00

Date Received: 03/22/13 13:00

Lab Sample ID: HWC0112-05

Matrix: Solid/Soil

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
4,4'-DDE	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
4,4'-DDT	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
Aldrin	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
alpha-BHC	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
beta-BHC	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1

TestAmerica Honolulu

Client Sample Results

Client: Department of Health, HEER Office
Project/Site: Princeville Water System Tank

TestAmerica Job ID: HWC0112

Client Sample ID: PWST-DU-5

Date Collected: 03/20/13 13:00

Date Received: 03/22/13 13:00

Lab Sample ID: HWC0112-05

Matrix: Solid/Soil

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	0.10		0.025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
delta-BHC	ND		0.0049		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
Dieldrin	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
Endosulfan I	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
Endosulfan II	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
Endosulfan sulfate	ND		0.0049		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
Endrin	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
Endrin aldehyde	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
Endrin ketone	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
gamma-BHC (Lindane)	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
Heptachlor	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
Heptachlor epoxide	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
Methoxychlor	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
Toxaphene	ND		0.099		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	43		35 - 115				04/01/13 13:15	04/02/13 13:16	1
DCB Decachlorobiphenyl (Surr)	58		45 - 120				04/01/13 13:15	04/02/13 13:16	1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 08:49	1
Aroclor 1221	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 08:49	1
Aroclor 1232	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 08:49	1
Aroclor 1242	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 08:49	1
Aroclor 1248	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 08:49	1
Aroclor 1254	0.031		0.025		mg/Kg		04/01/13 13:15	04/02/13 08:49	1
Aroclor 1260	0.029		0.025		mg/Kg		04/01/13 13:15	04/02/13 08:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	67		45 - 120				04/01/13 13:15	04/02/13 08:49	1

Client Sample ID: PWST-DU-6

Date Collected: 03/20/13 13:00

Date Received: 03/22/13 13:00

Lab Sample ID: HWC0112-06

Matrix: Solid/Soil

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
4,4'-DDE	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
4,4'-DDT	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
Aldrin	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
alpha-BHC	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
beta-BHC	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
Chlordane (technical)	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
delta-BHC	ND		0.0049		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
Dieldrin	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
Endosulfan I	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
Endosulfan II	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
Endosulfan sulfate	ND		0.0049		mg/Kg		04/01/13 13:15	04/02/13 13:31	1

TestAmerica Honolulu

Client Sample Results

Client: Department of Health, HEER Office
Project/Site: Princeville Water System Tank

TestAmerica Job ID: HWC0112

Client Sample ID: PWST-DU-6

Lab Sample ID: HWC0112-06

Date Collected: 03/20/13 13:00

Matrix: Solid/Soil

Date Received: 03/22/13 13:00

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
Endrin aldehyde	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
Endrin ketone	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
gamma-BHC (Lindane)	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
Heptachlor	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
Heptachlor epoxide	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
Methoxychlor	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
Toxaphene	ND		0.099		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	35		35 - 115				04/01/13 13:15	04/02/13 13:31	1
DCB Decachlorobiphenyl (Surr)	52		45 - 120				04/01/13 13:15	04/02/13 13:31	1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 09:04	1
Aroclor 1221	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 09:04	1
Aroclor 1232	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 09:04	1
Aroclor 1242	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 09:04	1
Aroclor 1248	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 09:04	1
Aroclor 1254	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 09:04	1
Aroclor 1260	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 09:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	62		45 - 120				04/01/13 13:15	04/02/13 09:04	1

Surrogate Summary

Client: Department of Health, HEER Office
Project/Site: Princeville Water System Tank

TestAmerica Job ID: HWC0112

Method: 8081A - Organochlorine Pesticides (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX2 (35-115)	DCB2 (45-120)
440-42135-A-11-A MS	Matrix Spike	47	57
440-42135-A-11-B MSD	Matrix Spike Duplicate	59	71
LCS 440-95408/2-A	Lab Control Sample	72	88
MB 440-95408/1-A	Method Blank	63	86

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl (Surr)

Method: 8081A - Organochlorine Pesticides (GC)

Matrix: Solid/Soil

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX2 (35-115)	DCB2 (45-120)
HWC0112-01	PWST-DU-1	54	61
HWC0112-05	PWST-DU-5	43	58
HWC0112-06	PWST-DU-6	35	52

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl (Surr)

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCB1 (45-120)
440-42170-A-6-A MS	Matrix Spike	97
440-42170-A-6-B MSD	Matrix Spike Duplicate	98
LCS 440-95408/5-A	Lab Control Sample	102
MB 440-95408/1-A	Method Blank	94

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid/Soil

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCB1 (45-120)
HWC0112-01	PWST-DU-1	69
HWC0112-02	PWST-DU-2	289 X
HWC0112-03	PWST-DU-3	89
HWC0112-04	PWST-DU-4	74
HWC0112-05	PWST-DU-5	67
HWC0112-06	PWST-DU-6	62

Surrogate Legend

TestAmerica Honolulu

Surrogate Summary

Client: Department of Health, HEER Office
Project/Site: Princeville Water System Tank

TestAmerica Job ID: HWC0112

DCB = DCB Decachlorobiphenyl (Surr)

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

QC Sample Results

Client: Department of Health, HEER Office
Project/Site: Princeville Water System Tank

TestAmerica Job ID: HWC0112

Method: 8081A - Organochlorine Pesticides (GC)

Lab Sample ID: MB 440-95408/1-A

Matrix: Solid

Analysis Batch: 95507

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 95408

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
4,4'-DDE	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
4,4'-DDT	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Aldrin	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
alpha-BHC	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
beta-BHC	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Chlordane (technical)	ND		0.050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
delta-BHC	ND		0.010		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Dieldrin	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Endosulfan I	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Endosulfan II	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Endosulfan sulfate	ND		0.010		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Endrin	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Endrin aldehyde	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Endrin ketone	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
gamma-BHC (Lindane)	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Heptachlor	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Heptachlor epoxide	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Methoxychlor	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Toxaphene	ND		0.20		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	63		35 - 115				04/01/13 13:15	04/02/13 09:34	1
DCB Decachlorobiphenyl (Surr)	86		45 - 120				04/01/13 13:15	04/02/13 09:34	1

Lab Sample ID: LCS 440-95408/2-A

Matrix: Solid

Analysis Batch: 95507

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 95408

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	0.0333	0.0281		mg/Kg		84	60 - 120
4,4'-DDE	0.0333	0.0295		mg/Kg		88	60 - 120
4,4'-DDT	0.0333	0.0319		mg/Kg		96	65 - 120
Aldrin	0.0333	0.0265		mg/Kg		79	50 - 115
alpha-BHC	0.0333	0.0277		mg/Kg		83	60 - 115
beta-BHC	0.0333	0.0243		mg/Kg		73	60 - 115
delta-BHC	0.0333	0.0264		mg/Kg		79	60 - 115
Dieldrin	0.0333	0.0293		mg/Kg		88	65 - 115
Endosulfan I	0.0333	0.0284		mg/Kg		85	40 - 120
Endosulfan II	0.0333	0.0280		mg/Kg		84	55 - 120
Endosulfan sulfate	0.0333	0.0304		mg/Kg		91	65 - 115
Endrin	0.0333	0.0296		mg/Kg		89	55 - 120
Endrin aldehyde	0.0333	0.0277		mg/Kg		83	55 - 115
Endrin ketone	0.0333	0.0285		mg/Kg		86	65 - 115
gamma-BHC (Lindane)	0.0333	0.0273		mg/Kg		82	55 - 115
Heptachlor	0.0333	0.0275		mg/Kg		83	55 - 115
Heptachlor epoxide	0.0333	0.0281		mg/Kg		84	55 - 115
Methoxychlor	0.0333	0.0300		mg/Kg		90	65 - 120

TestAmerica Honolulu

QC Sample Results

Client: Department of Health, HEER Office
Project/Site: Princeville Water System Tank

TestAmerica Job ID: HWC0112

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 440-95408/2-A

Matrix: Solid

Analysis Batch: 95507

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 95408

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	72		35 - 115
DCB Decachlorobiphenyl (Surr)	88		45 - 120

Lab Sample ID: 440-42135-A-11-A MS

Matrix: Solid

Analysis Batch: 95507

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 95408

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	ND		0.0333	0.0167		mg/Kg		42	40 - 130
4,4'-DDE	ND		0.0333	0.0177		mg/Kg		53	35 - 130
4,4'-DDT	ND		0.0333	0.0205		mg/Kg		56	35 - 130
Aldrin	ND		0.0333	0.0174		mg/Kg		52	40 - 115
alpha-BHC	ND		0.0333	0.0174		mg/Kg		52	40 - 115
beta-BHC	ND		0.0333	0.0156		mg/Kg		47	40 - 120
delta-BHC	ND		0.0333	0.0173		mg/Kg		52	45 - 120
Dieldrin	ND		0.0333	0.0184		mg/Kg		55	40 - 125
Endosulfan I	ND		0.0333	0.0173		mg/Kg		52	40 - 120
Endosulfan II	ND		0.0333	0.0167		mg/Kg		50	40 - 125
Endosulfan sulfate	ND		0.0333	0.0176		mg/Kg		53	45 - 120
Endrin	ND		0.0333	0.0183		mg/Kg		55	45 - 125
Endrin aldehyde	ND		0.0333	0.0142		mg/Kg		43	30 - 120
Endrin ketone	ND		0.0333	0.0168		mg/Kg		50	40 - 120
gamma-BHC (Lindane)	ND		0.0333	0.0175		mg/Kg		52	40 - 120
Heptachlor	ND		0.0333	0.0181		mg/Kg		54	40 - 115
Heptachlor epoxide	ND		0.0333	0.0171		mg/Kg		51	45 - 115
Methoxychlor	ND		0.0333	0.0206		mg/Kg		62	40 - 135

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene	47		35 - 115
DCB Decachlorobiphenyl (Surr)	57		45 - 120

Lab Sample ID: 440-42135-A-11-B MSD

Matrix: Solid

Analysis Batch: 95507

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 95408

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	ND		0.0333	0.0189		mg/Kg		57	40 - 130	13	30
4,4'-DDE	ND		0.0333	0.0215		mg/Kg		65	35 - 130	20	30
4,4'-DDT	ND		0.0333	0.0260		mg/Kg		72	35 - 130	23	30
Aldrin	ND		0.0333	0.0209		mg/Kg		63	40 - 115	18	30
alpha-BHC	ND		0.0333	0.0203		mg/Kg		61	40 - 115	15	30
beta-BHC	ND		0.0333	0.0177		mg/Kg		53	40 - 120	12	30
delta-BHC	ND		0.0333	0.0197		mg/Kg		59	45 - 120	13	30
Dieldrin	ND		0.0333	0.0227		mg/Kg		68	40 - 125	21	30
Endosulfan I	ND		0.0333	0.0207		mg/Kg		62	40 - 120	18	30
Endosulfan II	ND		0.0333	0.0186		mg/Kg		56	40 - 125	10	30
Endosulfan sulfate	ND		0.0333	0.0213		mg/Kg		64	45 - 120	15	30
Endrin	ND		0.0333	0.0220		mg/Kg		66	45 - 125	19	30

TestAmerica Honolulu

QC Sample Results

Client: Department of Health, HEER Office
Project/Site: Princeville Water System Tank

TestAmerica Job ID: HWC0112

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 440-42135-A-11-B MSD

Matrix: Solid

Analysis Batch: 95507

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 95408

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Endrin aldehyde	ND		0.0333	0.0154		mg/Kg		46	30 - 120	8	30
Endrin ketone	ND		0.0333	0.0203		mg/Kg		61	40 - 120	19	30
gamma-BHC (Lindane)	ND		0.0333	0.0209		mg/Kg		63	40 - 120	18	30
Heptachlor	ND		0.0333	0.0217		mg/Kg		65	40 - 115	18	30
Heptachlor epoxide	ND		0.0333	0.0206		mg/Kg		62	45 - 115	17	30
Methoxychlor	ND		0.0333	0.0239		mg/Kg		72	40 - 135	15	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Tetrachloro-m-xylene	59		35 - 115
DCB Decachlorobiphenyl (Surr)	71		45 - 120

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 440-95408/1-A

Matrix: Solid

Analysis Batch: 95349

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 95408

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.050		mg/Kg		04/01/13 13:15	04/02/13 03:43	1
Aroclor 1221	ND		0.050		mg/Kg		04/01/13 13:15	04/02/13 03:43	1
Aroclor 1232	ND		0.050		mg/Kg		04/01/13 13:15	04/02/13 03:43	1
Aroclor 1242	ND		0.050		mg/Kg		04/01/13 13:15	04/02/13 03:43	1
Aroclor 1248	ND		0.050		mg/Kg		04/01/13 13:15	04/02/13 03:43	1
Aroclor 1254	ND		0.050		mg/Kg		04/01/13 13:15	04/02/13 03:43	1
Aroclor 1260	ND		0.050		mg/Kg		04/01/13 13:15	04/02/13 03:43	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	94		45 - 120	04/01/13 13:15	04/02/13 03:43	1

Lab Sample ID: LCS 440-95408/5-A

Matrix: Solid

Analysis Batch: 95349

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 95408

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016	0.267	0.241		mg/Kg		90	65 - 115
Aroclor 1260	0.267	0.279		mg/Kg		105	65 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	102		45 - 120

Lab Sample ID: 440-42170-A-6-A MS

Matrix: Solid

Analysis Batch: 95349

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 95408

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016	ND		0.266	0.263		mg/Kg		99	50 - 120
Aroclor 1260	ND		0.266	1.18	F	mg/Kg		442	50 - 125

TestAmerica Honolulu

QC Sample Results

Client: Department of Health, HEER Office
Project/Site: Princeville Water System Tank

TestAmerica Job ID: HWC0112

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: 440-42170-A-6-A MS

Matrix: Solid

Analysis Batch: 95349

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 95408

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	97		45 - 120

Lab Sample ID: 440-42170-A-6-B MSD

Matrix: Solid

Analysis Batch: 95349

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 95408

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016	ND		0.266	0.250		mg/Kg		94	50 - 120	5	30
Aroclor 1260	ND		0.266	1.25	F	mg/Kg		471	50 - 125	7	30

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	98		45 - 120

TestAmerica Honolulu

QC Association Summary

Client: Department of Health, HEER Office
Project/Site: Princeville Water System Tank

TestAmerica Job ID: HWC0112

GC Semi VOA

Analysis Batch: 95349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-42170-A-6-A MS	Matrix Spike	Total/NA	Solid	8082	95408
440-42170-A-6-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8082	95408
HWC0112-01	PWST-DU-1	Total/NA	Solid/Soil	8082	95408
HWC0112-02	PWST-DU-2	Total/NA	Solid/Soil	8082	95408
HWC0112-03	PWST-DU-3	Total/NA	Solid/Soil	8082	95408
HWC0112-04	PWST-DU-4	Total/NA	Solid/Soil	8082	95408
HWC0112-05	PWST-DU-5	Total/NA	Solid/Soil	8082	95408
HWC0112-06	PWST-DU-6	Total/NA	Solid/Soil	8082	95408
LCS 440-95408/5-A	Lab Control Sample	Total/NA	Solid	8082	95408
MB 440-95408/1-A	Method Blank	Total/NA	Solid	8082	95408

Prep Batch: 95408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-42135-A-11-A MS	Matrix Spike	Total/NA	Solid	3546	
440-42135-A-11-B MSD	Matrix Spike Duplicate	Total/NA	Solid	3546	
440-42170-A-6-A MS	Matrix Spike	Total/NA	Solid	3546	
440-42170-A-6-B MSD	Matrix Spike Duplicate	Total/NA	Solid	3546	
HWC0112-01	PWST-DU-1	Total/NA	Solid/Soil	3546	
HWC0112-02	PWST-DU-2	Total/NA	Solid/Soil	3546	
HWC0112-03	PWST-DU-3	Total/NA	Solid/Soil	3546	
HWC0112-04	PWST-DU-4	Total/NA	Solid/Soil	3546	
HWC0112-05	PWST-DU-5	Total/NA	Solid/Soil	3546	
HWC0112-06	PWST-DU-6	Total/NA	Solid/Soil	3546	
LCS 440-95408/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 440-95408/5-A	Lab Control Sample	Total/NA	Solid	3546	
MB 440-95408/1-A	Method Blank	Total/NA	Solid	3546	

Analysis Batch: 95507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-42135-A-11-A MS	Matrix Spike	Total/NA	Solid	8081A	95408
440-42135-A-11-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8081A	95408
HWC0112-01	PWST-DU-1	Total/NA	Solid/Soil	8081A	95408
HWC0112-05	PWST-DU-5	Total/NA	Solid/Soil	8081A	95408
HWC0112-06	PWST-DU-6	Total/NA	Solid/Soil	8081A	95408
LCS 440-95408/2-A	Lab Control Sample	Total/NA	Solid	8081A	95408
MB 440-95408/1-A	Method Blank	Total/NA	Solid	8081A	95408

TestAmerica Honolulu

Lab Chronicle

Client: Department of Health, HEER Office
Project/Site: Princeville Water System Tank

TestAmerica Job ID: HWC0112

Client Sample ID: PWST-DU-1

Date Collected: 03/20/13 13:00

Date Received: 03/22/13 13:00

Lab Sample ID: HWC0112-01

Matrix: Solid/Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			95408	04/01/13 13:15	AB	TAL IRV
Total/NA	Analysis	8082		1	95349	04/02/13 07:34	JM	TAL IRV
Total/NA	Prep	3546			95408	04/01/13 13:15	AB	TAL IRV
Total/NA	Analysis	8081A		1	95507	04/02/13 13:01	CN	TAL IRV

Client Sample ID: PWST-DU-2

Date Collected: 03/20/13 13:00

Date Received: 03/22/13 13:00

Lab Sample ID: HWC0112-02

Matrix: Solid/Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			95408	04/01/13 13:15	AB	TAL IRV
Total/NA	Analysis	8082		100	95349	04/02/13 08:04	JM	TAL IRV

Client Sample ID: PWST-DU-3

Date Collected: 03/20/13 13:00

Date Received: 03/22/13 13:00

Lab Sample ID: HWC0112-03

Matrix: Solid/Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			95408	04/01/13 13:15	AB	TAL IRV
Total/NA	Analysis	8082		10	95349	04/02/13 08:19	JM	TAL IRV

Client Sample ID: PWST-DU-4

Date Collected: 03/20/13 13:00

Date Received: 03/22/13 13:00

Lab Sample ID: HWC0112-04

Matrix: Solid/Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			95408	04/01/13 13:15	AB	TAL IRV
Total/NA	Analysis	8082		20	95349	04/02/13 08:34	JM	TAL IRV

Client Sample ID: PWST-DU-5

Date Collected: 03/20/13 13:00

Date Received: 03/22/13 13:00

Lab Sample ID: HWC0112-05

Matrix: Solid/Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			95408	04/01/13 13:15	AB	TAL IRV
Total/NA	Analysis	8082		1	95349	04/02/13 08:49	JM	TAL IRV
Total/NA	Prep	3546			95408	04/01/13 13:15	AB	TAL IRV
Total/NA	Analysis	8081A		1	95507	04/02/13 13:16	CN	TAL IRV

TestAmerica Honolulu

Lab Chronicle

Client: Department of Health, HEER Office
Project/Site: Princeville Water System Tank

TestAmerica Job ID: HWC0112

Client Sample ID: PWST-DU-6

Date Collected: 03/20/13 13:00

Date Received: 03/22/13 13:00

Lab Sample ID: HWC0112-06

Matrix: Solid/Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			95408	04/01/13 13:15	AB	TAL IRV
Total/NA	Analysis	8082		1	95349	04/02/13 09:04	JM	TAL IRV
Total/NA	Prep	3546			95408	04/01/13 13:15	AB	TAL IRV
Total/NA	Analysis	8081A		1	95507	04/02/13 13:31	CN	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Certification Summary

Client: Department of Health, HEER Office
Project/Site: Princeville Water System Tank

TestAmerica Job ID: HWC0112

Laboratory: TestAmerica Honolulu

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Florida	NELAP	4	E87907	05-30-13
Hawaii	State Program	9	N/A	06-28-13
USDA	Federal		HON-S-206	01-31-15

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-13
Arizona	State Program	9	AZ0671	10-13-13
California	LA Cty Sanitation Districts	9	10256	01-31-14
California	NELAP	9	1108CA	01-31-14
California	State Program	9	2706	06-30-14
Guam	State Program	9	Cert. No. 12.002r	03-28-13 *
Hawaii	State Program	9	N/A	01-31-14
Nevada	State Program	9	CA015312007A	07-31-13
Northern Mariana Islands	State Program	9	MP0002	01-31-14
Oregon	NELAP	10	4005	09-12-13
USDA	Federal		P330-09-00080	06-06-14
USEPA UCMR	Federal	1	CA01531	01-31-15

* Expired certification is currently pending renewal and is considered valid.

TestAmerica Honolulu

Method Summary

Client: Department of Health, HEER Office
Project/Site: Princeville Water System Tank

TestAmerica Job ID: HWC0112

Method	Method Description	Protocol	Laboratory
8081A	Organochlorine Pesticides (GC)	SW846	TAL IRV
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

LABORATORY USE ONLY	
LAB JOB NO.	HWC0112
LOCATION	
CONTAINERS	

Chain of Custody / Analysis Request Form

Report to: <u>Laura Young</u>			Project identification			Indicate analyses requested PCB 8082 Dioxin P290 Total Metals 6011 Chlorinated Hydrocarbons 8081 Organophosphorus 8141 SVOC 8270 Carcinogens 8321 Trihalomethanes																									
Company name: <u>DOH HPRC</u>			Job name: <u>Princeton Water System Tank</u>																												
Address: <u>919 Ala Moana Blvd #206</u>			Job number:																												
City: <u>Honolulu HI</u> State: <u>HI</u> ZIP: <u>96814</u>			P.O. number:																												
Phone: <u>586-4249</u> Fax: <u>586-7537</u>			Contact email address: <u>Laura.Young@doh.hawaii.gov</u>																												
Sampler: <u>#6</u> # samples in shipment			Date results needed: <u>STAT</u>																												
Item no.	Client sample ID	Matrix	GRAB	Water	Soil	Wastewater	Drinking water	Sludge	Liquid	Solid	Oil	Other	Preservation method	Date	Time	No. of containers	Laboratory ID no.														
1	PWST-DU-1			X										3/20/10		1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	HWC0112-01	
2	2															1	✓													-02	
3	3															1	✓													-03	
4	4															1	✓													-04	
5	5															1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-05	
6	6															1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-06	
7																															
8																															
9																															
10																															
Released by (print / sign): <u>Laura Young / Sam Yang</u>			Date / time released: <u>3/22/11 1:00pm</u>			Delivery method: <u>for John</u>			Received by (print / sign): <u>for John</u>			Company / Agency affiliation: <u>TA Han</u>			Date / time received: <u>3/22/11 1:00</u>			Condition noted: <u>Dist 222</u>													

Comments: Multi-increment sample processing on all samples
Return to client

Please check one:
☐ Dispose by lab
☐ Return to client
☐ Archive

TestAmerica

Rush TAT Confirmation (Initial/Date) _____

Sample Receipt Checklist

Client Name: DON

Date/ Time Received: 3/24/13 1300

Received By: W

Matrices: Soil

Carrier: Client

Airbill# : _____

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Chain of Custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>
Chain of Custody Signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of Custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers on ice?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Type: <u>N/A</u>
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Water - VOA Vials have Zero Headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials present: <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Checked: <input checked="" type="checkbox"/>
	pH Adjusted? Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Final pH: _____
Encores / MI-VOC / 5035 Vials Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Location: _____
Sample Filtration Needed?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Filtered in Field: <input type="checkbox"/>
Dry Weight Corrected Results?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Take Action: <input type="checkbox"/>
DODQSM / QAPP Project?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Type: _____

Temperature Blank Present? Yes ☐ No ☒

Sample Container Temperature: 22 °C

Comments/ Sampling Handling Notes:



CALSCIENCE

WORK ORDER NUMBER: 13-03-1843

The difference is service



AIR :: SOIL :: WATER :: MARINE CHEMISTRY

Analytical Report For

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville Utilities Company, Inc.

Attention: Michael Loo
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Approved for release on 04/1/2013 by:
Don Burley
Project Manager

ResultLink ▶

Email your PM ▶



Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



Contents

Client Project Name: Princeville Utilities Company, Inc.

Work Order Number: 13-03-1843

1	Work Order Narrative	3
2	Client Sample Data	4
	2.1 EPA 508A (Aqueous)	4
3	Quality Control Sample Data	5
	3.1 LCS/LCSD	5
4	Glossary of Terms and Qualifiers	6
5	Chain of Custody/Sample Receipt Form	7

Condition Upon Receipt:

Samples were received under Chain of Custody (COC) on 03/27/2013. They were assigned to Work Order 13-03-1843.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with an immediate holding time (HT \leq 15 minutes --40CFR-136.3 Table II footnote 4), is considered a "field" test and reported samples results are not flagged unless the analysis is performed beyond 24 hours of the time of collection.

Quality Control:

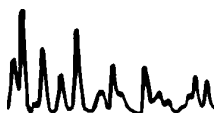
All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Additional Comments:

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

Subcontract Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Date Received: 03/27/13
Work Order No: 13-03-1843
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville Utilities Company, Inc.

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
St. Regis Pool Deck	13-03-1843-1-B	03/26/13 08:30	Aqueous	GC 44	03/28/13	03/29/13 12:45	130328L21

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Decachlorobiphenyl	ND	0.25	1		ug/L

Makai Tennis Shop	13-03-1843-2-B	03/26/13 08:45	Aqueous	GC 44	03/28/13	03/29/13 12:59	130328L21
--------------------------	-----------------------	-----------------------	----------------	--------------	-----------------	-----------------------	------------------

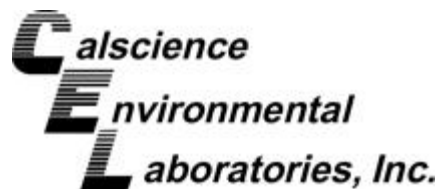
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Decachlorobiphenyl	ND	0.25	1		ug/L

EPD at Ranch House	13-03-1843-3-B	03/26/13 09:00	Aqueous	GC 44	03/28/13	03/29/13 13:14	130328L21
---------------------------	-----------------------	-----------------------	----------------	--------------	-----------------	-----------------------	------------------

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Decachlorobiphenyl	ND	0.25	1		ug/L

Method Blank	099-14-541-18	N/A	Aqueous	GC 44	03/28/13	03/29/13 13:28	130328L21
---------------------	----------------------	------------	----------------	--------------	-----------------	-----------------------	------------------

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Decachlorobiphenyl	ND	0.25	1		ug/L



Quality Control - LCS/LCS Duplicate



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

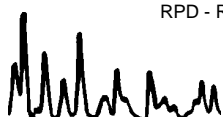
Date Received: N/A
Work Order No: 13-03-1843
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville Utilities Company, Inc.

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-541-18	Aqueous	GC 44	03/28/13	03/29/13	130328L21

Parameter	<u>SPIKE ADDED</u>	<u>LCS CONC</u>	<u>LCS %REC</u>	<u>LCSD CONC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Decachlorobiphenyl	0.6950	0.6891	99	0.7519	108	80-120	9	0-10	

RPD - Relative Percent Difference , CL - Control Limit



Glossary of Terms and Qualifiers

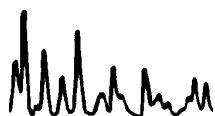


Work Order Number: 13-03-1843

Qualifier	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

For any analysis identified as a "field" test with a holding time (HT) ≤ 15 minutes where the sample is received outside of HT, Calscience will adhere to its internal HT of 24 hours. In cases where sample analysis does not meet Calscience's internal HT, results will be appropriately qualified.



From: (808) 826-6100
Michael Loo
Princeville Utilities Company,
5-3541 Kuhio Highway, Suite 221
4261 Kekuanaoa Lane
Princeville, HI 96722

Origin ID: LIHA



J13111302120326

Ship Date: 26MAR13
ActWgt: 40.0 LB
CAD: 7665451/INET3370

Dims: 24 X 13 X 14 IN

1843

Delivery Address Bar Code



SHIP TO: (714) 895-5494

BILL SENDER

Don Burley
CalScience Environmental Lab.
7440 LINCOLN WAY

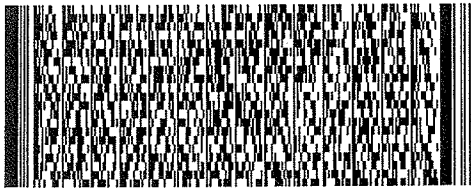
GARDEN GROVE, CA 92841

Ref #
Invoice #
PO #
Dept #

WED - 27 MAR 10:30A
PRIORITY OVERNIGHT

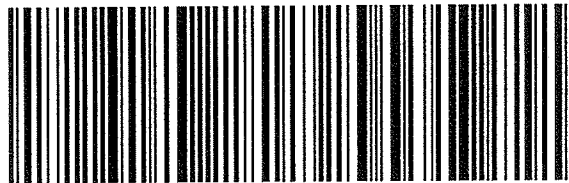
TRK# 7993 7043 9136

0201



WZ APVA

92841
CA-US
SNA



518G164BE93AB

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WORK ORDER #: 13-03-1843

SAMPLE RECEIPT FORMCooler 1 of 1CLIENT: PrincetonvilleDATE: 03/27/13

TEMPERATURE: Thermometer ID: SC2 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)

Temperature 2.6 °C - 0.2 °C (CF) = 2.4 °C ☐ Blank ☒ Sample☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.☐ Received at ambient temperature, placed on ice for transport by Courier.Ambient Temperature: ☐ Air ☐ FilterInitial: [Signature]**CUSTODY SEALS INTACT:**☐ Cooler ☐ _____ ☐ No (Not Intact) ☒ Not Present ☐ N/AInitial: [Signature]☐ Sample ☐ _____ ☐ No (Not Intact) ☒ Not PresentInitial: [Signature]**SAMPLE CONDITION:**

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.Sampler's name indicated on COC..... ☒ ☐ ☐Sample container label(s) consistent with COC..... ☒ ☐ ☐Sample container(s) intact and good condition..... ☒ ☐ ☐Proper containers and sufficient volume for analyses requested..... ☒ ☐ ☐Analyses received within holding time..... ☒ ☐ ☐pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours... ☐ ☐ ☒Proper preservation noted on COC or sample container..... ☒ ☐ ☐☐ Unpreserved vials received for Volatiles analysisVolatile analysis container(s) free of headspace..... ☐ ☐ ☒Tedlar bag(s) free of condensation..... ☐ ☐ ☒**CONTAINER TYPE:**Solid: ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (____) ☐ EnCores® ☐ TerraCores® ☐ _____Water: ☐ VOA ☐ VOAh ☐ VOAna₂ ☐ 125AGB ☐ 125AGBh ☐ 125AGBp ☒ 1AGB ☐ 1AGBna₂ ☐ 1AGBs☐ 500AGB ☐ 500AGJ ☐ 500AGJs ☐ 250AGB ☐ 250CGB ☐ 250CGBs ☐ 1PB ☐ 1PBna ☐ 500PB☐ 250PB ☐ 250PBn ☐ 125PB ☐ 125PBz₂na ☐ 100PJ ☐ 100PJna₂ ☐ _____ ☐ _____ ☐ _____Air: ☐ Tedlar® ☐ Canister Other: ☐ _____ Trip Blank Lot#: _____ Labeled/Checked by: [Signature]Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: [Signature]Preservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure z₂na: ZnAc₂+NaOH f: Filtered Scanned by: [Signature]



CALSCIENCE

WORK ORDER NUMBER: 13-04-0229

The difference is service



AIR :: SOIL :: WATER :: MARINE CHEMISTRY

Analytical Report For

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville Utilities Company, Inc.

Attention: Michael Loo
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Approved for release on 04/8/2013 by:
Don Burley
Project Manager

ResultLink ▶

Email your PM ▶



Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



Contents

Client Project Name: Princeville Utilities Company, Inc.

Work Order Number: 13-04-0229

1	Work Order Narrative	3
2	Client Sample Data	4
	2.1 EPA 508A (Aqueous)	4
3	Quality Control Sample Data	5
	3.1 LCS/LCSD	5
4	Glossary of Terms and Qualifiers	6
5	Chain of Custody/Sample Receipt Form	7

Condition Upon Receipt:

Samples were received under Chain of Custody (COC) on 04/03/2013. They were assigned to Work Order 13-04-0229.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with an immediate holding time (HT \leq 15 minutes --40CFR-136.3 Table II footnote 4), is considered a "field" test and reported samples results are not flagged unless the analysis is performed beyond 24 hours of the time of collection.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Additional Comments:

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

Subcontract Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.



Analytical Report



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Date Received: 04/03/13
Work Order No: 13-04-0229
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville Utilities Company, Inc.

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Makai Tennis Shop	13-04-0229-2-A	04/02/13 09:15	Aqueous	GC 44	04/04/13	04/08/13 11:26	130404L21

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Decachlorobiphenyl	ND	0.25	1		ug/L

EPD at Ranch House	13-04-0229-3-A	04/02/13 09:40	Aqueous	GC 44	04/04/13	04/08/13 11:40	130404L21
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Decachlorobiphenyl	ND	0.25	1		ug/L

Well #2 Post-chlor	13-04-0229-4-A	04/02/13 09:55	Aqueous	GC 44	04/04/13	04/08/13 11:54	130404L21
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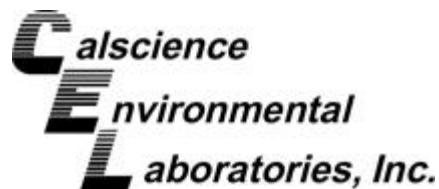
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Decachlorobiphenyl	ND	0.25	1		ug/L

Method Blank	099-14-541-19-A	N/A	Aqueous	GC 44	04/04/13	04/08/13 10:57	130404L21
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Decachlorobiphenyl	ND	0.25	1		ug/L

Return to Contents

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Quality Control - LCS/LCS Duplicate



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

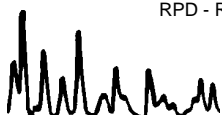
Date Received: N/A
Work Order No: 13-04-0229
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville Utilities Company, Inc.

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-541-19	Aqueous	GC 44	04/04/13	04/08/13	130404L21

Parameter	<u>SPIKE ADDED</u>	<u>LCS CONC</u>	<u>LCS %REC</u>	<u>LCSD CONC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Decachlorobiphenyl	0.6950	0.7383	106	0.7701	111	80-120	4	0-10	

RPD - Relative Percent Difference , CL - Control Limit



Glossary of Terms and Qualifiers




Work Order Number: 13-04-0229

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

For any analysis identified as a "field" test with a holding time (HT) \leq 15 minutes where the sample is received outside of HT, Calscience will adhere to its internal HT of 24 hours. In cases where sample analysis does not meet Calscience's internal HT, results will be appropriately qualified.



0229

From: (808) 826-6100
 Michael Loo
 Princeville Utilities Company,
 5-3541 Kuhio Highway, Suite 221
 4261 Kekuanaoa Lane
 Princeville, HI 96722

Origin ID: LIHA

FedEx
Express

J13111302120326

Ship Date: 02APR13
 ActWgt: 40.0 LB
 CAD: 7665451/INET3370

Dims: 24 X 13 X 14 IN

Delivery Address Bar Code



SHIP TO: (714) 895-5494

BILL SENDER

Don Burley
 Calscience Environmental Lab.
 7440 LINCOLN WAY

GARDEN GROVE, CA 92841

Ref #
 Invoice #
 PO #
 Dept #

TRK# 7994 2535 1204
 0204

WED - 03 APR 10:30A
 PRIORITY OVERNIGHT

FedEx

TRK# 7994 2535 1204
 0201

10:30A
 PRIORITY OVERNIGHT

92841
 CA-US
 SNA

92 APVA



Emp# 98509 03APR13 NZJA 519C1/648E/93AB

WORK ORDER #: 13-04-0229

SAMPLE RECEIPT FORMCooler 1 of 1CLIENT: PrincevilleDATE: 04/03/13**TEMPERATURE:** Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)Temperature 11.4 °C - 0.2 °C (CF) = 11.2 °C ☒ Blank ☐ Sample☒ Sample(s) outside temperature criteria (PM/APM contacted by: AF).☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.☐ Received at ambient temperature, placed on ice for transport by Courier.Ambient Temperature: ☐ Air ☐ FilterInitial: AF**CUSTODY SEALS INTACT:**☐ Cooler ☐ ☐ No (Not Intact) ☒ Not Present ☐ N/AInitial: AF☐ Sample ☐ ☐ No (Not Intact) ☒ Not PresentInitial: AF**SAMPLE CONDITION:**

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
<input type="checkbox"/> No analysis requested. <input type="checkbox"/> Not relinquished. <input type="checkbox"/> No date/time relinquished.			
Sampler's name indicated on COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and good condition.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Proper containers and sufficient volume for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analyses received within holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours...	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper preservation noted on COC or sample container.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE:Solid: ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (____) ☐ EnCores® ☐ TerraCores® ☐ _____Water: ☐ VOA ☐ VOA_h ☐ VOA_{na2} ☐ 125AGB ☐ 125AGB_h ☐ 125AGB_p ☒ 1AGB ☐ 1AGB_{na2} ☐ 1AGB_s☐ 500AGB ☐ 500AGJ ☐ 500AGJ_s ☐ 250AGB ☐ 250CGB ☐ 250CGB_s ☐ 1PB ☐ 1PB_{na} ☐ 500PB☐ 250PB ☐ 250PB_n ☐ 125PB ☐ 125PB_{znna} ☐ 100PJ ☐ 100PJ_{na2} ☐ _____ ☐ _____ ☐ _____Air: ☐ Tedlar® ☐ Canister Other: ☐ _____ Trip Blank Lot#: _____ Labeled/Checked by: AFContainer: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: AFPreservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure znna: ZnAc₂+NaOH f: Filtered Scanned by: AF

WORK ORDER #: 13-04-0229

SAMPLE ANOMALY FORM

SAMPLES - CONTAINERS & LABELS:
Comments:

- ☐ Sample(s) NOT RECEIVED but listed on COC
☐ Sample(s) received but NOT LISTED on COC
☐ Holding time expired – list sample ID(s) and test
☐ Insufficient quantities for analysis – list test
☐ Improper container(s) used – list test
☐ Improper preservative used – list test
☐ No preservative noted on COC or label – list test & notify lab
☐ Sample labels illegible – note test/container type
☐ Sample label(s) do not match COC – Note in comments
 - ☐ Sample ID
 - ☐ Date and/or Time Collected
 - ☐ Project Information
 - ☐ # of Container(s)
 - ☐ Analysis☒ Sample container(s) compromised – Note in comments
 - ☐ Water present in sample container
 - ☒ Broken☐ Sample container(s) not labeled
☐ Air sample container(s) compromised – Note in comments
 - ☐ Flat
 - ☐ Very low in volume
 - ☐ Leaking (Not transferred - duplicate bag submitted)
 - ☐ Leaking (transferred into Calscience Tedlar® Bag*)
 - ☐ Leaking (transferred into Client's Tedlar® Bag*)☐ Other: _____

 (-1) 2 X 1 Amber Glass bottle
 Received Broken

HEADSPACE – Containers with Bubble > 6mm or ¼ inch:

Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Cont. received	Analysis

Comments: _____

*Transferred at Client's request.

Initial / Date: HH 04/03/13


CERTIFICATE OF ANALYSIS
Reported by Alloway - Marion

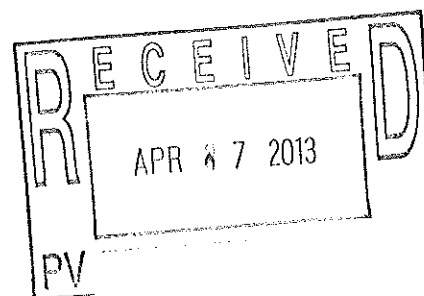
Chain of Custody attached

 Princeville Utilities Company Inc.
 Attn: Michael Loo
 5-3541 Kuhio Highway, Suite 221
 Princeville, Hawaii 96722

 Lab Project # M13-14414
 Received: 4/11/2013
 Reported: 4/23/2013
 Date/Time Sampled: 04/09/2013 11:20
 Sampled By: Ben Owen
 Sampled Matrix: Drinking Water
 Containers: 2
 Collection Method: Grab

Project Name: Princeville Utilities Company Inc.
Sample ID: Well #2 Post Chlorination
Lab Sample # M13-14414-01

Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
PCBs as Decachlorobiphenyl (DCB)	<0.10	ug/L	0.10	EPA-508A	EPA-508A	RDK	04/16/2013	04/20/2013 06:36



Analysis Certified By:

Rhonda C Morris

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The results presented on this Certificate of Analysis only reflect those parameters that were requested by the client on the chain of custody or other documentation received with the sample(s). The analytical results relate only to the items tested. Analytical results are based on dry-weights for solid samples, unless otherwise specified.



CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Chain of Custody attached

Princeville Utilities Company Inc.

Attn: Michael Loo

5-3541 Kuhio Highway, Suite 221

Princeville, Hawaii 96722

Project Name: Princeville Utilities Company Inc.

Sample ID: Well #1 Post Chlorination

Lab Sample # M13-14414-02

Lab Project # M13-14414

Received: 4/11/2013

Reported: 4/23/2013

Date/Time Sampled: 04/09/2013 09:45

Sampled By: Ben Owen

Sampled Matrix: Drinking Water

Containers: 2

Collection Method: Grab

Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
PCBs as Decachlorobiphenyl (DCB)	<0.10	ug/L	0.10	EPA-508A	EPA-508A	RDK	04/16/2013	04/20/2013 07:12

Analysis Certified By: _____

Rhonda C. Morris

Rhonda C Morris

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Alloway
Your Resource for Defensible Data

CERTIFICATE OF ANALYSIS
Reported by Alloway - Marion
Chain of Custody attached

Princeville Utilities Company Inc.
Attn: Michael Loo
5-3541 Kuhio Highway, Suite 221
Princeville, Hawaii 96722

Lab Project # M13-14414
Received: 4/11/2013
Reported: 4/23/2013
Date/Time Sampled: 04/09/2013 10:35
Sampled By: Ben Owen
Sampled Matrix: Drinking Water
Containers: 2
Collection Method: Grab

Project Name: Princeville Utilities Company Inc.

Sample ID: St. Regis Pook Deck

Lab Sample # M13-14414-03

Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
PCBs as Decachlorobiphenyl (DCB)	<0.10	ug/L	0.10	EPA-508A	EPA-508A	RDK	04/16/2013	04/20/2013 07:47

Analysis Certified By: _____

Rhonda C. Morris

Rhonda C Morris

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1101 N. Cole Street • Lima, Ohio 45805
419.223.1362 • Fax 419.227.3792
800.436.1243

508 Bissman Ct. • Mansfield, Ohio 44903
419.525.1644 • Fax 419.524.5575
800.635.3222

1776 Marion-Waldo Rd. • Marion, Ohio 43302
740.389.5991 • Fax 740.389.1481
800.873.2835

CERTIFICATE OF ANALYSIS
Reported by Alloway - Marion
Chain of Custody attached

Princeville Utilities Company Inc.
Attn: Michael Loo
5-3541 Kuhio Highway, Suite 221
Princeville, Hawaii 96722

Lab Project # M13-14414
Received: 4/11/2013
Reported: 4/23/2013
Date/Time Sampled: 04/09/2013 10:50
Sampled By: Ben Owen
Sampled Matrix: Drinking Water
Containers: 2
Collection Method: Grab

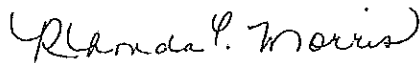
Project Name: Princeville Utilities Company Inc.

Sample ID: Makai Tennis

Lab Sample # M13-14414-04

Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
PCBs as Decachlorobiphenyl (DCB)	<0.10	ug/L	0.10	EPA-508A	EPA-508A	RDK	04/16/2013	04/20/2013 08:23

Analysis Certified By: _____



Rhonda C Morris

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CERTIFICATE OF ANALYSIS
Reported by Alloway - Marion
Chain of Custody attached

Princeville Utilities Company Inc.
Attn: Michael Loo
5-3541 Kuhio Highway, Suite 221
Princeville, Hawaii 96722

Lab Project # M13-14414
Received: 4/11/2013
Reported: 4/23/2013
Date/Time Sampled: 04/09/2013 11:10
Sampled By: Ben Owen
Sampled Matrix: Drinking Water
Containers: 2
Collection Method: Grab

Project Name: Princeville Utilities Company Inc.

Sample ID: EPD Ranch House

Lab Sample # M13-14414-05

Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
PCBs as Decachlorobiphenyl (DCB)	<0.10	ug/L	0.10	EPA-508A	EPA-508A	RDK	04/16/2013	04/20/2013 08:59

Analysis Certified By: _____

Rhonda C Morris

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The results presented on this Certificate of Analysis only reflect those parameters that were requested by the client on the chain of custody or other documentation received with the sample(s). The analytical results relate only to the items tested. Analytical results are based on dry-weights for solid samples, unless otherwise specified.



Project: M13-14414



ord

rm

- 1101 North Cole Street, Lima, OH 45805
(P) 419-223-1362 (F) 419-227-3792
1776 Marion-Waldo Road, Marion OH 43302
(P) 740-389-6991 (F) 740-389-1481
508 Bissman Court, Mansfield, OH 44903
(P) 419-525-1644 (F) 419-524-5575

Report To:

Name: Michael Loo
Company: Princeville Utilities Company, Inc.
Address: 5-3541 Kuhio Highway, Suite 221
Pineville, Hawaii 96722

Company:
Address:

Phone #: 808-826-6100, Ext. 20

Fax #: 808-827-8019

E-mail: mloo@princeville.com

PO#:

Project Name: Princeville Utilities Company, Inc.

Sampler

(Print) Ben Owen

(Signature)

Benjamin Owen

	Customer Sample ID / Sample Location	Sample Date	Sample Time	Composite	Grab	Matrix Code	Number of Containers	Preservation Code #	Analysis Required	Alloway LIMS # For Lab Use Only
1	Well #2 Post Chlorination	4-9-13	06:15 11:20		X	dw	1	1	PCB 508A	01
2	Well #1 Post Chlorination	4-9-13	09:20 09:45		X	dw	1	1	PCB 508A	02
3	St. Regis Pook Deck	4-9-13	10:35		X	dw	1	1	PCB 508A	03
4	Makai Tennis	4-9-13	10:50		X	dw	1	1	PCB 508A	04
5	EPD - Ranch House	4-9-13	11:10		X	dw	1	1	PCB 508A	05
6										
7										
8										

Relinquished by:	Received by:	Date	Time	Method of Delivery	Matrix Codes:	Preservation Codes:	Sample Receiving (For Lab Use Only)
1 Ben Owen		4/9/13	12:45	UPS <input type="checkbox"/>	ww - wastewater gw - groundwater	1 - None 7 - Sodium Thiosulfate 13 - Zinc Acetate	
2				Fed Ex <input checked="" type="checkbox"/>	dw - drinking water sw - surface water	2 - HNO ₃ 8 - Ascorbic Acid 14 - Sodium Sulfite	Ice Present? Y <input type="checkbox"/> N <input type="checkbox"/>
3				Client <input type="checkbox"/>	w - water oil - oil	3 - H ₂ SO ₄ 9 - Maleic Acid 15 - Potassium Dihydrogen Citrate	
4				Alloway Pick Up <input type="checkbox"/>	s - solid sg - sludge	4 - HCl 10 - EDA 16 - Sodium Sulfite/Sodium Bisulfate	Proper Preservation? Y <input type="checkbox"/> N <input type="checkbox"/>
5				Alloway Sampling <input type="checkbox"/>	l - leachate a - acid	5 - NaOH 11 - Ammonium Chloride	
6				Other <input type="checkbox"/>	p - product o - other	6 - NaOH & Zinc Acetate 12 - (NH ₄) ₂ SO ₄ & NH ₄ OH	Container Temperature: 6
Received for Laboratory By: (circle one): Mansfield Lima Marion		4/11/13 0930					
(Signature) A. White							

Transported to: Lima
Marion

By: _____

Received By: _____

Date: _____

Time: _____

Transported to: Lima
Marion

By: _____

Received By: _____

Date: _____

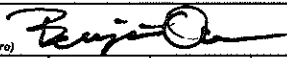
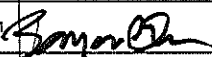

Time: _____



Chain of Custody Record

This is a legal document that authorizes Alloway to perform testing on samples submitted under this agreement.

- 1101 North Cole Street, Lima, OH 45805
(P) 419-223-1362 (F) 419-227-3792
● 1776 Marion-Waldo Road, Marion OH 43302
(P) 740-389-5991 (F) 740-389-1481
○ 508 Bissman Court, Mansfield, OH 44903
(P) 419-525-1644 (F) 419-524-5575

Report To: Name: Michael Loo Company: Princeville Utilities Company, Inc. Address: 5-3541 Kuhio Highway, Suite 221 Pineville, Hawaii 96722		Invoice To (If Different): Name: Company: Address: M13-14414		Notes/Comments: Please return ALL blue ice packs in this cooler to client with next shipment of sample bottles									
Phone #: 808-826-6100, Ext. 20		Fax #: 808-827-8019											
E-mail: mloo@princeville.com		PO#:											
Project Name Princeville Utilities Company, Inc.				Next Day <input type="checkbox"/>				Turnaround: (Rush Charges May Apply) 3 Working Days <input type="checkbox"/>				Routine <input type="checkbox"/>	
Sampler Bee Owen (Print)  (Signature)				2 Working Days <input type="checkbox"/>				5 Working Days <input checked="" type="checkbox"/>					
	Customer Sample ID / Sample Location	Sample Date	Sample Time	Composite	Grab	Matrix Code	Number of Containers	Preservation Code #	Analysis Required			Alloway LIMS # For Lab Use Only	
1	Well #2 Post Chlorination	4-9-13	9:25 11:20		X	dw	1	TS	PCB 508				
2	Well #1 Post Chlorination	4-9-13	12:20 9:25		X	dw	1	TS	PCB 508				
3	St. Regis Pook Deck	4-9-13	10:35		X	dw	1	TS	PCB 508				
4	Makai Tennis	4-9-13	16:50		X	dw	1	TS	PCB 508				
5	EPD - Ranch House	4-9-13	11:10		X	dw	1	TS	PCB 508				
6									will only be ran if there is				
7									a hit in 508A analysis. 4/14/13				
8													
Relinquished by:		Received by:		Date	Time	Method of Delivery	Matrix Codes:	Preservation Codes:			Sample Receiving (For Lab Use Only)		
1 				4/9/13	12:45	UPS <input type="checkbox"/>	ww - wastewater gw - groundwater	1 - None	7 - Sodium Thiosulfate	13 - Zinc Acetate	Ice Present? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		
2						Fed Ex <input checked="" type="checkbox"/>	dw - drinking water sw - surface water	2 - HNO ₃	8 - Ascorbic Acid	14 - Sodium Sulfite			
3						Client <input type="checkbox"/>	w - water oil - oil	3 - H ₂ SO ₄	9 - Maleic Acid	15 - Potassium Dihydrogen Citrate	Proper Preservation? Y <input type="checkbox"/> N <input type="checkbox"/>		
4						Alloway Pick Up <input type="checkbox"/>	s - solid sg - sludge	4 - HCl	10 - EDA	16 - Sodium Sulfite/Sodium Bisulfate			
5						Alloway Sampling <input type="checkbox"/>	l - leachate a - acid	5 - NaOH	11 - Ammonium Chloride				
6						Other <input type="checkbox"/>	p - product o - other	6 - NaOH & Zinc Acetate	12 - (NH ₄) ₂ SO ₄ & NH ₄ OH		Container Temperature: 66		
Received for Laboratory By: (circle one): Mansfield Lima <u>Marion</u>													
(Signature)				4/11/13 0930									

Transported to: Lima
Marion

By: _____

Received By: _____

Date: _____ Time: _____

Transported to: Lima
Marion

By: _____

Received By: _____

Date: _____ Time: _____

Project #

M13-14414

Cooler Temp

6 °C

Form 6003-1

Analyst:

AVW

Sample ID	508				515.1				525.2				531.2		548.1				549.2		552.2			
	Bottle A		Bottle B		Bottle A		Bottle B		Bottle A		Bottle B		Bottle A		Bottle A		Bottle B		Bottle A		Bottle A		Bottle B	
	CL-T	pH	CL-T	pH	CL-T	pH	CL-T	pH	CL-T	pH	CL-T	pH	CL-T	pH	CL-T	pH	CL-T	pH	CL-T	pH	CL-F	pH	CL-F	pH
1	01	.8	7	ND	7																			
2	02																							
3	03																							
4	04																							
5	05	.8	7	ND	7																			
6																								
7																								
8																								
9																								
10																								

Sample ID	218.7		300.1		522				537	539
	Bottle A		Bottle A		Bottle A		Bottle B		Bottle A	Bottle A
	CL-F	pH	CL-F	pH	CL-T	pH	CL-T	pH	CL-F	CL-F
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

Expected pH ranges

508	Neutral
515	Neutral
525.2	<2
531.2	3 to 4
548.1	Neutral **
549.2	≤2
552.2	Neutral
218.7	>8
300.1	Neutral
522	<4

**Can be acidified to <2
if biological activity is present



CALSCIENCE

WORK ORDER NUMBER: 13-04-1203

The difference is service



AIR :: SOIL :: WATER :: MARINE CHEMISTRY

Analytical Report For

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville Utilities Company, Inc.

Attention: Michael Loo
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Approved for release on 04/24/2013 by:
Don Burley
Project Manager

ResultLink ▶

Email your PM ▶



Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



Contents

Client Project Name: Princeville Utilities Company, Inc.

Work Order Number: 13-04-1203

1	Work Order Narrative	3
2	Client Sample Data	4
	2.1 EPA 508A (Aqueous)	4
3	Quality Control Sample Data	6
	3.1 LCS/LCSD	6
4	Glossary of Terms and Qualifiers	7
5	Chain of Custody/Sample Receipt Form	8

Condition Upon Receipt:

Samples were received under Chain of Custody (COC) on 04/17/2013. They were assigned to Work Order 13-04-1203.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with an immediate holding time (HT \leq 15 minutes --40CFR-136.3 Table II footnote 4), is considered a "field" test and reported samples results are not flagged unless the analysis is performed beyond 24 hours of the time of collection.

Quality Control:

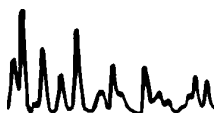
All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Additional Comments:

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

Subcontract Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.



Analytical Report



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Date Received: 04/17/13
Work Order No: 13-04-1203
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville Utilities Company, Inc.

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Well #1 Post Chlorination	13-04-1203-1-A	04/16/13 11:00	Aqueous	GC 44	04/18/13	04/22/13 17:29	130418L21

Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

St. Regis Pool Deck	13-04-1203-2-A	04/16/13 08:35	Aqueous	GC 44	04/18/13	04/22/13 17:51	130418L21
---------------------	----------------	----------------	---------	-------	----------	----------------	-----------

Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Makai Tennis	13-04-1203-3-A	04/16/13 08:50	Aqueous	GC 44	04/18/13	04/24/13 16:42	130418L21
--------------	----------------	----------------	---------	-------	----------	----------------	-----------

Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

EPD-Ranch House	13-04-1203-4-A	04/16/13 09:05	Aqueous	GC 44	04/18/13	04/22/13 18:20	130418L21
-----------------	----------------	----------------	---------	-------	----------	----------------	-----------

Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

PV 11	13-04-1203-5-A	04/16/13 10:30	Aqueous	GC 44	04/18/13	04/24/13 16:57	130418L21
-------	----------------	----------------	---------	-------	----------	----------------	-----------

Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

PV 12	13-04-1203-6-A	04/16/13 10:10	Aqueous	GC 44	04/18/13	04/24/13 17:11	130418L21
-------	----------------	----------------	---------	-------	----------	----------------	-----------

Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	0.58	0.25	1		ug/L

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Analytical Report



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Date Received: 04/17/13
Work Order No: 13-04-1203
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville Utilities Company, Inc.

Page 2 of 2

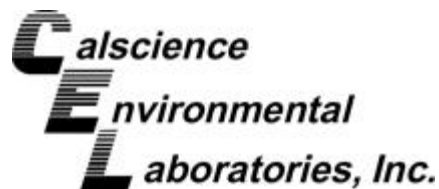
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PV 13	13-04-1203-7-A	04/16/13 10:20	Aqueous	GC 44	04/18/13	04/24/13 17:25	130418L21

Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	0.55	0.25	1		ug/L

Method Blank	099-14-541-21	N/A	Aqueous	GC 44	04/18/13	04/22/13 17:15	130418L21
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Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Return to Contents



Quality Control - LCS/LCS Duplicate



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

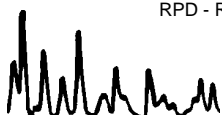
Date Received: N/A
Work Order No: 13-04-1203
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville Utilities Company, Inc.

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-541-21	Aqueous	GC 44	04/18/13	04/22/13	130418L21

Parameter	<u>SPIKE ADDED</u>	<u>LCS CONC</u>	<u>LCS %REC</u>	<u>LCSD CONC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Decachlorobiphenyl	0.6950	0.6189	89	0.6146	88	80-120	1	0-10	

RPD - Relative Percent Difference , CL - Control Limit



Glossary of Terms and Qualifiers

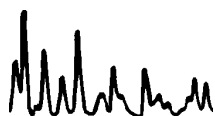


Work Order Number: 13-04-1203

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDS or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

For any analysis identified as a "field" test with a holding time (HT) \leq 15 minutes where the sample is received outside of HT, Calscience will adhere to its internal HT of 24 hours. In cases where sample analysis does not meet Calscience's internal HT, results will be appropriately qualified.



CHAIN OF CUSTODY RECORD

DATE: 4/16/13
PAGE: 1 OF 1

WG #1 LAB USE ONLY
13-04-1203

LABORATORY CLIENT:		Princeville Utilities Company, Inc.		P.O. NO.:
ADDRESS:		5-3541 Kuhio Highway, Suite 221		SAMPLER(S): (PRINT)
CITY:		Princeville		<u>Ben Owen</u>
TEL:		808-826-6100		PROJECT CONTACT:
E-MAIL:		mlou@princeville.com		Michael Loo
TURNAROUND TIME:		<input type="checkbox"/> SAME DAY <input type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR <input checked="" type="checkbox"/> 5 DAYS <input type="checkbox"/> 10 DAYS		
<input type="checkbox"/> COELT EDF		GLOBAL ID:		

TEL: 808-826-6100		E-MAIL: mloo@princeville.com		REQUESTED ANALYSES																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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Relinquished by: (Signature)	<u>Ben Owen</u>	Received by: (Signature/Affiliation)	<u>Ben Owen</u>	Date:	<u>4/16/13</u>	Time:	<u>12:30pm</u>
Relinquished by: (Signature)		Received by: (Signature/Affiliation)		Date:	<u>4/17/13</u>	Time:	<u>1020</u>
Relinquished by: (Signature)		Received by: (Signature/Affiliation)		Date:		Time:	

From: (808) 826-6100
Michael Loo
Princeville Utilities Company,
5-3541 Kuhio Highway, Suite 221
4261 Kekuanaoa Lane
Princeville, HI 96722

Origin ID: LIHA



J13111302120326

Ship Date: 16APR13
ActWgt: 40.0 LB
CAD: 7665451/INET3370

Dims: 24 X 13 X 14 IN

Page 9 of 12

1203

Delivery Address Bar Code



Ref #
Invoice #
PO #
Dept #

SHIP TO: (714) 895-5494

BILL SENDER

Don Burley
Calscience Environmental Lab.
7440 LINCOLN WAY

GARDEN GROVE, CA 92841

WED - 17 APR 10:30A
PRIORITY OVERNIGHT

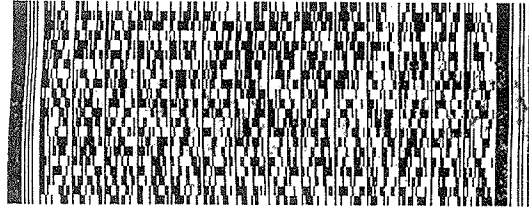
TRK# 7995 4137 2418
0201

WZ APVA

92841
CA-US
SNA



518G1/64BE/93AB



FedEx
TRK# 7995 3720 7820
0201

WED - 17 APR 10:30A
PRIORITY OVERNIGHT

WZ APVA

92841
CA-US
SNA



Emp# 210103 16APR13 HNLR 519C1/64BE/93AB

Delivery Address Bar Code



Ref #
Invoice #
PO #
Dept #

From: (808) 826-6100
Michael Loo
Princeville Utilities Company,
5-3541 Kuhio Highway, Suite 221
4261 Kekuanaoa Lane
Princeville, HI 96722

Origin ID: LIHA



J13111302120326

BILL SENDER

Don Burley
Calscience Environmental Lab.
7440 LINCOLN WAY

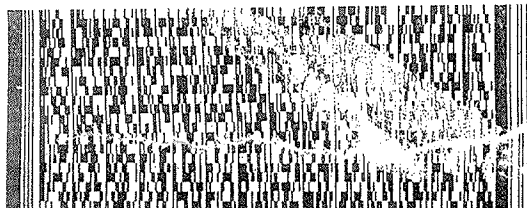
GARDEN GROVE, CA 92841

WED - 17 APR 10:30A
PRIORITY OVERNIGHT
WED - 17 APR 10:30A
PRIORITY OVERNIGHT

TRK#
FedEx
TRK# 7995 3720 7820
0201

WZ APVA

92841
CA-US
SNA



WORK ORDER #: 13-04-1203**SAMPLE RECEIPT FORM**Cooler 1 of 2CLIENT: PrincetonvilleDATE: 04/17/13**TEMPERATURE:** Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)Temperature 4.4 °C - 0.2 °C (CF) = 4.2 °C ☐ Blank ☒ Sample☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.☐ Received at ambient temperature, placed on ice for transport by Courier.Ambient Temperature: ☐ Air ☐ FilterInitial: AP**CUSTODY SEALS INTACT:**☐ Cooler ☐ _____ ☐ No (Not Intact) ☒ Not Present ☐ N/AInitial: AP☐ Sample ☐ _____ ☐ No (Not Intact) ☒ Not PresentInitial: AP**SAMPLE CONDITION:**

Yes No N/A

Chain-Of-Custody (COC) document(s) received with samples..... ☒ ☐ ☐COC document(s) received complete..... ☒ ☐ ☐☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.Sampler's name indicated on COC..... ☒ ☐ ☐Sample container label(s) consistent with COC..... ☐ ☒ ☐Sample container(s) intact and good condition..... ☒ ☐ ☐Proper containers and sufficient volume for analyses requested..... ☒ ☐ ☐Analyses received within holding time..... ☒ ☐ ☐pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours... ☐ ☐ ☒Proper preservation noted on COC or sample container..... ☒ ☐ ☐☐ Unpreserved vials received for Volatiles analysisVolatile analysis container(s) free of headspace..... ☐ ☐ ☒Tedlar bag(s) free of condensation..... ☐ ☐ ☒**CONTAINER TYPE:**Solid: ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (____) ☐ EnCores® ☐ TerraCores® ☐ _____Water: ☐ VOA ☐ VOA_h ☐ VOA_{na2} ☐ 125AGB ☐ 125AGB_h ☐ 125AGB_p ☒ 1AGB ☐ 1AGB_{na2} ☐ 1AGB_s☐ 500AGB ☐ 500AGJ ☐ 500AGJ_s ☐ 250AGB ☐ 250CGB ☐ 250CGB_s ☐ 1PB ☐ 1PB_{na} ☐ 500PB☐ 250PB ☐ 250PB_n ☐ 125PB ☐ 125PB_{znna} ☐ 100PJ ☐ 100PJ_{na2} ☐ _____ ☐ _____ ☐ _____Air: ☐ Tedlar® ☐ Canister Other: ☐ _____ Trip Blank Lot#: _____ Labeled/Checked by: AS

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope

Reviewed by: APPreservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure znna: ZnAc₂+NaOH f: FilteredScanned by: AP

WORK ORDER #: **13-04-1203****SAMPLE RECEIPT FORM**Cooler 2 of 2CLIENT: PrincetonvilleDATE: 04/17/13**TEMPERATURE:** Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)Temperature 5.1 °C - 0.2 °C (CF) = 4.9 °C ☐ Blank ☒ Sample☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.☐ Received at ambient temperature, placed on ice for transport by Courier.Ambient Temperature: ☐ Air ☐ FilterInitial: JP**CUSTODY SEALS INTACT:**☐ Cooler ☐ _____ ☐ No (Not Intact) ☒ Not Present ☐ N/AInitial: JP☐ Sample ☐ _____ ☐ No (Not Intact) ☒ Not PresentInitial: JP**SAMPLE CONDITION:**

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COC document(s) received complete.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.

Sampler's name indicated on COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Sample container label(s) consistent with COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Sample container(s) intact and good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Proper containers and sufficient volume for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Analyses received within holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours...	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Proper preservation noted on COC or sample container.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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☐ Unpreserved vials received for Volatiles analysis

Volatile analysis container(s) free of headspace.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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CONTAINER TYPE:Solid: ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (____) ☐ EnCores® ☐ TerraCores® ☐ _____Water: ☐ VOA ☐ VOAh ☐ VOAna₂ ☐ 125AGB ☐ 125AGBh ☐ 125AGBp ☒ 1AGB ☐ 1AGBna₂ ☐ 1AGBs☐ 500AGB ☐ 500AGJ ☐ 500AGJs ☐ 250AGB ☐ 250CGB ☐ 250CGBs ☐ 1PB ☐ 1PBna ☐ 500PB☐ 250PB ☐ 250PBn ☐ 125PB ☐ 125PBz_{na} ☐ 100PJ ☐ 100PJna₂ ☐ _____ ☐ _____ ☐ _____Air: ☐ Tedlar® ☐ Canister Other: ☐ _____ Trip Blank Lot#: _____ Labeled/Checked by: JPContainer: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: JPPreservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure z_{na}: ZnAc₂+NaOH f: Filtered Scanned by: JP

WORK ORDER #: 13-04-1203

SAMPLE ANOMALY FORM

SAMPLES - CONTAINERS & LABELS:

Comments:

- ☐ Sample(s) NOT RECEIVED but listed on COC
☐ Sample(s) received but NOT LISTED on COC
☐ Holding time expired – list sample ID(s) and test
☐ Insufficient quantities for analysis – list test
☐ Improper container(s) used – list test
☐ Improper preservative used – list test
☐ No preservative noted on COC or label – list test & notify lab
☐ Sample labels illegible – note test/container type
☒ Sample label(s) do not match COC – Note in comments
 - ☒ Sample ID
 - ☐ Date and/or Time Collected
 - ☐ Project Information
 - ☐ # of Container(s)
 - ☐ Analysis
 - ☐ Sample container(s) compromised – Note in comments
 - ☐ Water present in sample container
 - ☐ Broken
 - ☐ Sample container(s) not labeled
 - ☐ Air sample container(s) compromised – Note in comments
 - ☐ Flat
 - ☐ Very low in volume
 - ☐ Leaking (Not transferred - duplicate bag submitted)
 - ☐ Leaking (transferred into Calscience Tedlar® Bag*)
 - ☐ Leaking (transferred into Client's Tedlar® Bag*)
 - ☐ Other: _____

(-2) LABELED AS ST REGIS POOL
 DECK, DATE MATCHED (NO COLLECTION
 TIME ON LABEL).

HEADSPACE – Containers with Bubble > 6mm or ¼ inch:

Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Cont. received	Analysis

Comments: _____

*Transferred at Client's request.

Initial / Date: JS 04/17/13



CALSCIENCE

WORK ORDER NUMBER: 13-04-1882

The difference is service



AIR :: SOIL :: WATER :: MARINE CHEMISTRY

Analytical Report For

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville Utilities Company, Inc.

Attention: Michael Loo
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Approved for release on 04/30/2013 by:
Don Burley
Project Manager

ResultLink ▶

Email your PM ▶



Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



Contents

Client Project Name: Princeville Utilities Company, Inc.

Work Order Number: 13-04-1882

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	3.1 LCS/LCSD	5
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5	Chain of Custody/Sample Receipt Form	7

Condition Upon Receipt:

Samples were received under Chain of Custody (COC) on 04/26/2013. They were assigned to Work Order 13-04-1882.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with an immediate holding time (HT \leq 15 minutes --40CFR-136.3 Table II footnote 4), is considered a "field" test and reported samples results are not flagged unless the analysis is performed beyond 24 hours of the time of collection.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Additional Comments:

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

Subcontract Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Date Received: 04/26/13
Work Order No: 13-04-1882
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville Utilities Company, Inc.

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
St. Regis Pool Deck	13-04-1882-1-A	04/25/13 07:20	Aqueous	GC 44	04/29/13	04/30/13 10:35	130429L21

Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Makai Tennis	13-04-1882-2-A	04/25/13 07:40	Aqueous	GC 44	04/29/13	04/30/13 10:49	130429L21
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Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

EPD - Ranch House	13-04-1882-3-A	04/25/13 08:15	Aqueous	GC 44	04/29/13	04/30/13 11:04	130429L21
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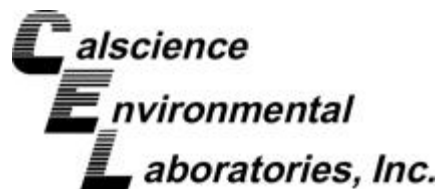
Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Well #1 Post Chlorination	13-04-1882-4-A	04/25/13 08:00	Aqueous	GC 44	04/29/13	04/30/13 11:18	130429L21
----------------------------------	-----------------------	-----------------------	----------------	--------------	-----------------	-----------------------	------------------

Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Method Blank	099-14-541-22	N/A	Aqueous	GC 44	04/29/13	04/30/13 10:21	130429L21
---------------------	----------------------	------------	----------------	--------------	-----------------	-----------------------	------------------

Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L



Quality Control - LCS/LCS Duplicate



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

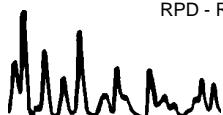
Date Received: N/A
Work Order No: 13-04-1882
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville Utilities Company, Inc.

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-541-22	Aqueous	GC 44	04/29/13	04/30/13	130429L21

Parameter	<u>SPIKE ADDED</u>	<u>LCS CONC</u>	<u>LCS %REC</u>	<u>LCSD CONC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Decachlorobiphenyl	0.6950	0.6524	94	0.6262	90	80-120	4	0-10	

RPD - Relative Percent Difference , CL - Control Limit



Glossary of Terms and Qualifiers

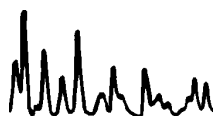


Work Order Number: 13-04-1882

Qualifier	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

For any analysis identified as a "field" test with a holding time (HT) \leq 15 minutes where the sample is received outside of HT, Calscience will adhere to its internal HT of 24 hours. In cases where sample analysis does not meet Calscience's internal HT, results will be appropriately qualified.



1882

From: (808) 826-6100
 Michael Loo
 Princeville Utilities Company.
 5-3541 Kuhio Highway, Suite 221
 4261 Kekuanaoa Lane
 Princeville, HI 96722

Origin ID: LIHA

FedEx
Express

J13111302120320

Ship Date: 25APR13
 ActWgt: 40.0 LB
 CAD: 7665451/NEY3370

Dims: 24 X 13 X 14 IN

Delivery Address Bar Code



SHIP TO: (714) 895-5494

BILL SENDER

Don Burley
 Calscience Environmental Lab.
 7440 LINCOLN WAY

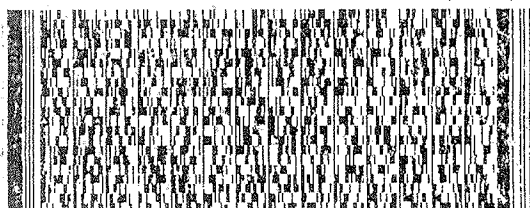
GARDEN GROVE, CA 92841

Ref #
 Invoice #
 PO #
 Dept #

FRI - 26 APR 10:30A
 PRIORITY OVERNIGHT

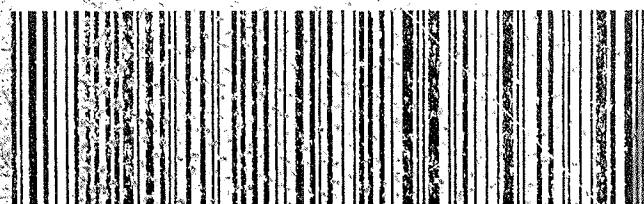
TRK# 7996 0694 6440

0201



WZ APVA

92841
 CA-US
 SNA



183104BE93AB

RT 357 1 C
 FZ 6440
 04.26

WORK ORDER #: **13-04-1882****SAMPLE RECEIPT FORM**Cooler 1 of 1CLIENT: PrincevilleDATE: 04/26/13**TEMPERATURE:** Thermometer ID: SC1 (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)Temperature 4.6 °C - 0.2°C (CF) = 4.4 °C ☒ Blank ☐ Sample☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.☐ Received at ambient temperature, placed on ice for transport by Courier.Ambient Temperature: ☐ Air ☐ FilterInitial: AS**CUSTODY SEALS INTACT:**☒ Cooler ☐ _____ ☐ No (Not Intact) ☐ Not Present ☐ N/AInitial: AS☐ Sample ☐ _____ ☐ No (Not Intact) ☒ Not PresentInitial: YS**SAMPLE CONDITION:**

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Collection date/time, <u>matrix</u> , and/or # of <u>containers</u> logged in based on sample labels.			
<input type="checkbox"/> No analysis requested. <input type="checkbox"/> Not relinquished. <input checked="" type="checkbox"/> No date/time relinquished.			
Sampler's name indicated on COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers and sufficient volume for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analyses received within holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours...	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper preservation noted on COC or sample container.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE:Solid: ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (____) ☐ EnCores® ☐ TerraCores® ☐ _____Water: ☐ VOA ☐ VOA_h ☐ VOA_{na2} ☐ 125AGB ☐ 125AGB_h ☐ 125AGB_p ☒ 1AGB ☐ 1AGB_{na2} ☐ 1AGB_s☐ 500AGB ☐ 500AGJ ☐ 500AGJ_s ☐ 250AGB ☐ 250CGB ☐ 250CGB_s ☐ 1PB ☐ 1PB_{na} ☐ 500PB☐ 250PB ☐ 250PB_n ☐ 125PB ☐ 125PB_{znna} ☐ 100PJ ☐ 100PJ_{na2} ☐ _____ ☐ _____ ☐ _____Air: ☐ Tedlar® ☐ Canister Other: ☐ _____ Trip Blank Lot#: _____ Labeled/Checked by: YSContainer: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: WJCPreservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure znna: ZnAc₂+NaOH f: Filtered Scanned by: WJC



CALSCIENCE

WORK ORDER NUMBER: 13-05-0112

The difference is service



AIR :: SOIL :: WATER :: MARINE CHEMISTRY

Analytical Report For

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville Utilities Company, Inc.

Attention: Michael Loo
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Approved for release on 05/6/2013 by:
Don Burley
Project Manager

ResultLink ▶

Email your PM ▶



Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



Contents

Client Project Name: Princeville Utilities Company, Inc.

Work Order Number: 13-05-0112

1	Work Order Narrative	3
2	Client Sample Data	4
	2.1 EPA 508A (Aqueous)	4
3	Quality Control Sample Data	5
	3.1 LCS/LCSD	5
4	Glossary of Terms and Qualifiers	6
5	Chain of Custody/Sample Receipt Form	7

Condition Upon Receipt:

Samples were received under Chain of Custody (COC) on 05/02/2013. They were assigned to Work Order 13-05-0112.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with an immediate holding time (HT \leq 15 minutes --40CFR-136.3 Table II footnote 4), is considered a "field" test and reported samples results are not flagged unless the analysis is performed beyond 24 hours of the time of collection.

Quality Control:

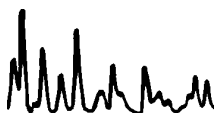
All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Additional Comments:

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

Subcontract Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Date Received: 05/02/13
Work Order No: 13-05-0112
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville Utilities Company, Inc.

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
St. Regis Pool Deck	13-05-0112-1-A	05/01/13 07:10	Aqueous	GC 44	05/03/13	05/03/13 16:26	130503L21

Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Makai Tennis	13-05-0112-2-A	05/01/13 07:36	Aqueous	GC 44	05/03/13	05/03/13 16:44	130503L21
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Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

EPD - Ranch	13-05-0112-3-A	05/01/13 08:00	Aqueous	GC 44	05/03/13	05/03/13 16:59	130503L21
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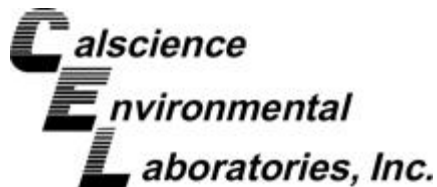
Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Well #2 Post Chlorination	13-05-0112-4-A	05/01/13 08:28	Aqueous	GC 44	05/03/13	05/03/13 17:13	130503L21
----------------------------------	-----------------------	-----------------------	----------------	--------------	-----------------	-----------------------	------------------

Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Method Blank	099-14-541-23	N/A	Aqueous	GC 44	05/03/13	05/03/13 16:12	130503L21
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Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L



Quality Control - LCS/LCS Duplicate



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

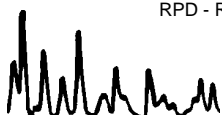
Date Received: N/A
Work Order No: 13-05-0112
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville Utilities Company, Inc.

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-541-23	Aqueous	GC 44	05/03/13	05/03/13	130503L21

Parameter	<u>SPIKE ADDED</u>	<u>LCS CONC</u>	<u>LCS %REC</u>	<u>LCSD CONC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Decachlorobiphenyl	0.6950	0.8023	115	0.8146	117	80-120	2	0-10	

RPD - Relative Percent Difference , CL - Control Limit



Glossary of Terms and Qualifiers



Work Order Number: 13-05-0112

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

For any analysis identified as a "field" test with a holding time (HT) \leq 15 minutes where the sample is received outside of HT, Calscience will adhere to its internal HT of 24 hours. In cases where sample analysis does not meet Calscience's internal HT, results will be appropriately qualified.



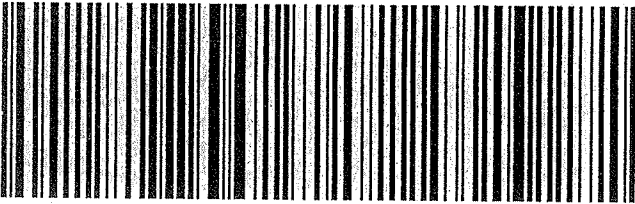
WQ # / LAB-USE ONLY

13-05-0112 ☐

LABORATORY CLIENT: Princeville Utilities Company, Inc.		CLIENT PROJECT NAME / NUMBER: Princeville Utilities Company, Inc.		P.O. NO.:
ADDRESS: 5-3541 Kuhio Highway, Suite 221		PROJECT CONTACT: Michael Loo		SAMPLER(S) (PRINT) Jordan Snyder
CITY: Princeville	STATE: HI	ZIP: 96722		

[illegible]

Relinquished by: (Signature) <i>Jr S</i>	Received by: (Signature/Affiliation) <i>Benny Furfaro</i>	Date: <i>5/1/13</i>	Time: <i>8:48 am</i>
Relinquished by: (Signature) <i>Benny Furfaro</i>	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature/Affiliation) <i>Mr. Park</i>	Date: <i>5/2/13</i>	Time: <i>1020</i>



51801/9983/93AB

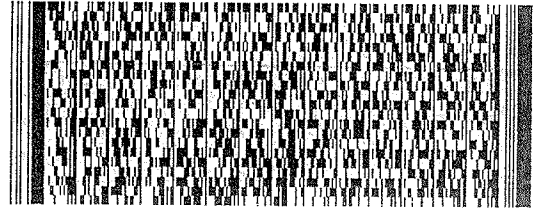
92841
CA-US
SNA

WZ APVA

THU - 02 MAY 10:30A
PRIORITY OVERNIGHT

TRK# 7996 5345 1100

0201



GARDEN GROVE, CA 92841

CalScience Environmental Lab.
7440 LINCOLN WAY

Don Burley

SHIP TO: (714) 895-5494

BILL SENDER

J13111302120326



FedEx
Express

Origin ID: LIHA

From: (808) 826-6100

Michael Loo
Princeville Utilities Company,
5-3541 Kuhio Highway, Suite 221
4261 Kekuanaoa Lane
Princeville, HI 96722



Delivery Address Bar Code

Ref #
Invoice #
PO #
Dept #

Ship Date: 01MAY13

ActWgt: 40.0 LB

CAD: 7665451/NET3370

Dim: 24 X 13 X 14 IN

(0112)

WORK ORDER #: **13-05-0112****SAMPLE RECEIPT FORM**Cooler 1 of 1CLIENT: PrincetonvilleDATE: 05/02/13**TEMPERATURE:** Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)Temperature 4.7 °C - 0.2 °C (CF) = 4.5 °C ☒ Blank ☐ Sample☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.☐ Received at ambient temperature, placed on ice for transport by Courier.Ambient Temperature: ☐ Air ☐ FilterInitial: AF**CUSTODY SEALS INTACT:**☐ Cooler ☐ _____ ☐ No (Not Intact) ☒ Not Present ☐ N/AInitial: AF☐ Sample ☐ _____ ☐ No (Not Intact) ☒ Not PresentInitial: AF**SAMPLE CONDITION:**

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
<input type="checkbox"/> No analysis requested. <input type="checkbox"/> Not relinquished. <input type="checkbox"/> No date/time relinquished.			
Sampler's name indicated on COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers and sufficient volume for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analyses received within holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours...	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper preservation noted on COC or sample container.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE:Solid: ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (____) ☐ EnCores® ☐ TerraCores® ☐ _____Water: ☐ VOA ☐ VOAh ☐ VOAna₂ ☐ 125AGB ☐ 125AGBh ☐ 125AGBp ☐ 1AGB ☐ 1AGBna₂ ☐ 1AGBs☐ 500AGB ☐ 500AGJ ☐ 500AGJs ☐ 250AGB ☐ 250CGB ☐ 250CGBs ☒ 1PB ☐ 1PBna ☐ 500PB☐ 250PB ☐ 250PBn ☐ 125PB ☐ 125PBz₂na ☐ 100PJ ☐ 100PJna₂ ☐ _____ ☐ _____ ☐ _____Air: ☐ Tedlar® ☐ Canister Other: ☐ _____ Trip Blank Lot#: _____ Labeled/Checked by: YSContainer: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: AFPreservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure z₂na: ZnAc₂+NaOH f: Filtered Scanned by: AF

Appendix B
Analytical Laboratory Data AECOM



CALSCIENCE

WORK ORDER NUMBER: 13-03-0512

The difference is service



AIR :: SOIL :: WATER :: MARINE CHEMISTRY

Analytical Report For

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville Sampling (HI)

Attention: Michael Loo
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Approved for release on 03/12/2013 by:
Don Burley
Project Manager

ResultLink ▶

Email your PM ▶



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Contents

Client Project Name: Princeville Sampling (HI)

Work Order Number: 13-03-0512

1	Client Sample Data	3
1.1	EPA 508A (Aqueous)	3
1.2	EPA 8082 PCB Aroclors (Solid)	4
2	Quality Control Sample Data	5
2.1	LCS/LCSD	5
3	Glossary of Terms and Qualifiers	7
4	Chain of Custody/Sample Receipt Form	8

Analytical Report



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Date Received: 03/08/13
Work Order No: 13-03-0512
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville Sampling (HI)

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PV01	13-03-0512-1-A	03/06/13 10:20	Aqueous	GC 44	03/08/13	03/12/13 14:27	130308L21

Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	0.38	0.25	1		ug/L

Method Blank	099-14-541-15	N/A	Aqueous	GC 44	03/08/13	03/08/13 15:35	130308L21
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Parameter	Result	RL	DF	Qual	Units
Decachlorobiphenyl	ND	0.25	1		ug/L

Return to Contents

Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Date Received: 03/08/13
Work Order No: 13-03-0512
Preparation: EPA 3545
Method: EPA 8082
Units: mg/kg

Project: Princeville Sampling (HI)

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PV02	13-03-0512-2-A	03/06/13 11:30	Solid	GC 58	03/08/13	03/11/13 11:52	130308L08

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aroclor-1016	ND	500	10000		Aroclor-1248	ND	500	10000	
Aroclor-1221	ND	500	10000		Aroclor-1254	2600	500	10000	
Aroclor-1232	ND	500	10000		Aroclor-1260	2100	500	10000	
Aroclor-1242	ND	500	10000		Aroclor-1262	ND	500	10000	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
Decachlorobiphenyl	1800	50-130		1,2,7	2,4,5,6-Tetrachloro-m-Xylene	690	50-130		1,2,7

PV03	13-03-0512-3-A	03/06/13 12:40	Solid	GC 58	03/08/13	03/11/13 12:10	130308L08
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aroclor-1016	ND	500	10000		Aroclor-1248	ND	500	10000	
Aroclor-1221	ND	500	10000		Aroclor-1254	2900	500	10000	
Aroclor-1232	ND	500	10000		Aroclor-1260	2200	500	10000	
Aroclor-1242	ND	500	10000		Aroclor-1262	ND	500	10000	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
Decachlorobiphenyl	790	50-130		1,2,7	2,4,5,6-Tetrachloro-m-Xylene	240	50-130		1,2,7

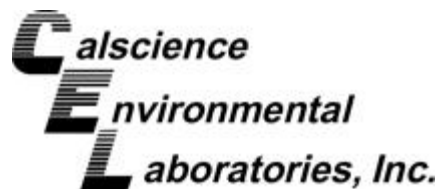
PV04	13-03-0512-4-A	03/06/13 13:10	Solid	GC 58	03/08/13	03/11/13 12:28	130308L08
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aroclor-1016	ND	500	10000		Aroclor-1248	ND	500	10000	
Aroclor-1221	ND	500	10000		Aroclor-1254	6200	500	10000	
Aroclor-1232	ND	500	10000		Aroclor-1260	6500	500	10000	
Aroclor-1242	ND	500	10000		Aroclor-1262	ND	500	10000	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
Decachlorobiphenyl	2020	50-130		1,2,7	2,4,5,6-Tetrachloro-m-Xylene	0	50-130		1,2,6

Method Blank	099-12-535-1,880	N/A	Solid	GC 58	03/08/13	03/11/13 11:34	130308L08
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aroclor-1016	ND	0.050	1		Aroclor-1248	ND	0.050	1	
Aroclor-1221	ND	0.050	1		Aroclor-1254	ND	0.050	1	
Aroclor-1232	ND	0.050	1		Aroclor-1260	ND	0.050	1	
Aroclor-1242	ND	0.050	1		Aroclor-1262	ND	0.050	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
Decachlorobiphenyl	85	50-130			2,4,5,6-Tetrachloro-m-Xylene	89	50-130		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Quality Control - LCS/LCS Duplicate



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

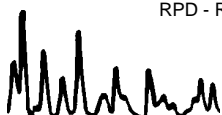
Date Received: N/A
Work Order No: 13-03-0512
Preparation: EPA 3545
Method: EPA 8082

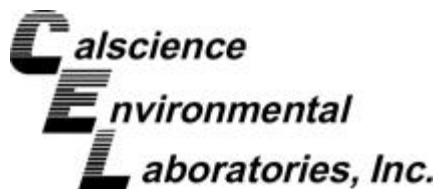
Project: Princeville Sampling (HI)

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-535-1,880	Solid	GC 58	03/08/13	03/11/13	130308L08

Parameter	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Aroclor-1016	0.1000	0.08600	86	0.08900	89	50-135	3	0-20	
Aroclor-1260	0.1000	0.08200	82	0.08400	84	50-135	2	0-25	

RPD - Relative Percent Difference , CL - Control Limit





Quality Control - LCS/LCS Duplicate



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

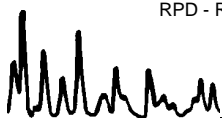
Date Received: N/A
Work Order No: 13-03-0512
Preparation: EPA 508A
Method: EPA 508A

Project: Princeville Sampling (HI)

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-541-15	Aqueous	GC 44	03/08/13	03/08/13	130308L21

Parameter	<u>SPIKE ADDED</u>	<u>LCS CONC</u>	<u>LCS %REC</u>	<u>LCSD CONC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Decachlorobiphenyl	0.6950	0.6655	96	0.7162	103	80-120	7	0-10	

RPD - Relative Percent Difference , CL - Control Limit



Glossary of Terms and Qualifiers

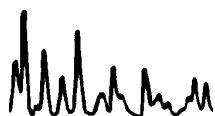


Work Order Number: 13-03-0512

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

For any analysis identified as a "field" test with a holding time (HT) \leq 15 minutes where the sample is received outside of HT, Calscience will adhere to its internal HT of 24 hours. In cases where sample analysis does not meet Calscience's internal HT, results will be appropriately qualified.



FedEx *NEW Package*
Express *US Airbill*

FedEx Tracking Number **8996 3258 4750**

1 From This portion can be removed for Recipient's records.

Date 3/7/13 FedEx Tracking Number **899632584750**

Sender's Name AECOM Dustin Goto Phone 808 523-8874

Company AECOM

Address 1001 BISHOP ST STE 1600 Dept./Floor/Suite/Room

City HONOLULU State HI ZIP 96813-3698

2 Your Internal Billing Reference

04116199-400

3 To

Recipient's Name Don Burley Phone 714 895-5494

Company CalScience Environmental Laboratories Inc

Address Sample Receiving
7440 Lincoln Way
We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept./Floor/Suite/Room

Address
Use this line for the HOLD location address or for continuation of your shipping address.

City Garden Grove State CA ZIP 92841-1432

0448954880



RT **357**

C
4750
03.08

FZ

Form ID No. **0215**

TRK# **8996 3258 4750**
0215

4 Express Package Service *To most locations.
NOTE: Service order has changed. Please select carefully.

Next Business Day

- ☐ FedEx First Overnight
Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Priority Overnight
Next business morning. *Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☒ FedEx Standard Overnight
Next business afternoon. *Saturday Delivery NOT available.

2 or 3

- ☐ NEW Second Day Saturday
- ☐ FedEx Second Day Saturday
- ☐ FedEx Third Day Saturday

5 Packaging *Declared value limit \$500.

- ☐ FedEx Envelope* ☐ FedEx Pak* ☐ FedEx Box

6 Special Handling and Delivery Signature Opt

- ☐ SATURDAY Delivery
NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express.
- ☐ No Signature Required
Package may be left without obtaining a signature for delivery.
- ☐ Direct Signature
Someone at recipient's address may sign for delivery. Fee applies.

Does this shipment contain dangerous goods?

- One box must be checked.
- ☒ No ☐ Yes As per attached Shipper's Declaration. ☐ Yes Shipper's Declaration not required.
- Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.
- ☐ Dry Ice 5, 9, UN 1845 x kg
- ☐ Cargo Aircraft Only

7 Payment Bill to:

- Enter FedEx Acct. No. or Credit Card No. below.
- Sender's Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

Total Packages 1 Total Weight 46 lbs.

*Our liability is limited to \$100 unless you declare a higher value. See the current FedEx Service Guide for details.

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611

WZ API



Part # 156148-434 NPIT 05-07

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WORK ORDER #: 13-03-0512

SAMPLE RECEIPT FORMCooler 1 of 1CLIENT: Princetonville UtilityDATE: 03/08/13**TEMPERATURE:** Thermometer ID: SC2 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)Temperature 3.4 °C - 0.2 °C (CF) = 3.2 °C ☒ Blank ☐ Sample☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.☐ Received at ambient temperature, placed on ice for transport by Courier.Ambient Temperature: ☐ Air ☐ FilterInitial: JP**CUSTODY SEALS INTACT:**☒ Cooler ☐ _____ ☐ No (Not Intact) ☐ Not Present ☐ N/AInitial: JP☒ Sample ☐ _____ ☐ No (Not Intact) ☐ Not PresentInitial: WZ**SAMPLE CONDITION:**

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
<input type="checkbox"/> No analysis requested. <input type="checkbox"/> Not relinquished. <input type="checkbox"/> No date/time relinquished.			
Sampler's name indicated on COC.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Sample container label(s) consistent with COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers and sufficient volume for analyses requested.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Analyses received within holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours...	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper preservation noted on COC or sample container.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE:Solid: ☐ 4ozCGJ ☐ 8ozCGJ ☒ 16ozCGJ ☐ Sleeve (____) ☐ EnCores® ☐ TerraCores® ☐ _____Water: ☐ VOA ☐ VOA_h ☐ VOA_{na2} ☐ 125AGB ☐ 125AGB_h ☐ 125AGB_p ☒ 1AGB ☐ 1AGB_{na2} ☐ 1AGB_s☐ 500AGB ☐ 500AGJ ☐ 500AGJ_s ☐ 250AGB ☐ 250CGB ☐ 250CGB_s ☐ 1PB ☐ 1PB_{na} ☐ 500PB☐ 250PB ☐ 250PB_n ☐ 125PB ☐ 125PB_{znna} ☐ 100PJ ☐ 100PJ_{na2} ☐ _____ ☐ _____ ☐ _____Air: ☐ Tedlar® ☐ Canister Other: ☐ _____ Trip Blank Lot#: _____ Labeled/Checked by: WZContainer: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: WZPreservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure znna: ZnAc₂+NaOH f: Filtered Scanned by: WZ

WORK ORDER #: 13-03-0512

SAMPLE ANOMALY FORM

SAMPLES - CONTAINERS & LABELS:**Comments:**

- ☐ Sample(s) NOT RECEIVED but listed on COC
☐ Sample(s) received but NOT LISTED on COC
☐ Holding time expired – list sample ID(s) and test
☒ Insufficient quantities for analysis – list test
☐ Improper container(s) used – list test
☐ Improper preservative used – list test
☐ No preservative noted on COC or label – list test & notify lab
☐ Sample labels illegible – note test/container type
☐ Sample label(s) do not match COC – Note in comments
 - ☐ Sample ID
 - ☐ Date and/or Time Collected
 - ☐ Project Information
 - ☐ # of Container(s)
 - ☐ Analysis☐ Sample container(s) compromised – Note in comments
 - ☐ Water present in sample container
 - ☐ Broken☐ Sample container(s) not labeled
☐ Air sample container(s) compromised – Note in comments
 - ☐ Flat
 - ☐ Very low in volume
 - ☐ Leaking (Not transferred - duplicate bag submitted)
 - ☐ Leaking (transferred into Calscience Tedlar® Bag*)
 - ☐ Leaking (transferred into Client's Tedlar® Bag*)☐ Other: _____

(-3) PVO3 Limited sample
received (approx. 2g)

HEADSPACE – Containers with Bubble > 6mm or ¼ inch:

Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Cont. received	Analysis

Comments: _____

*Transferred at Client's request.

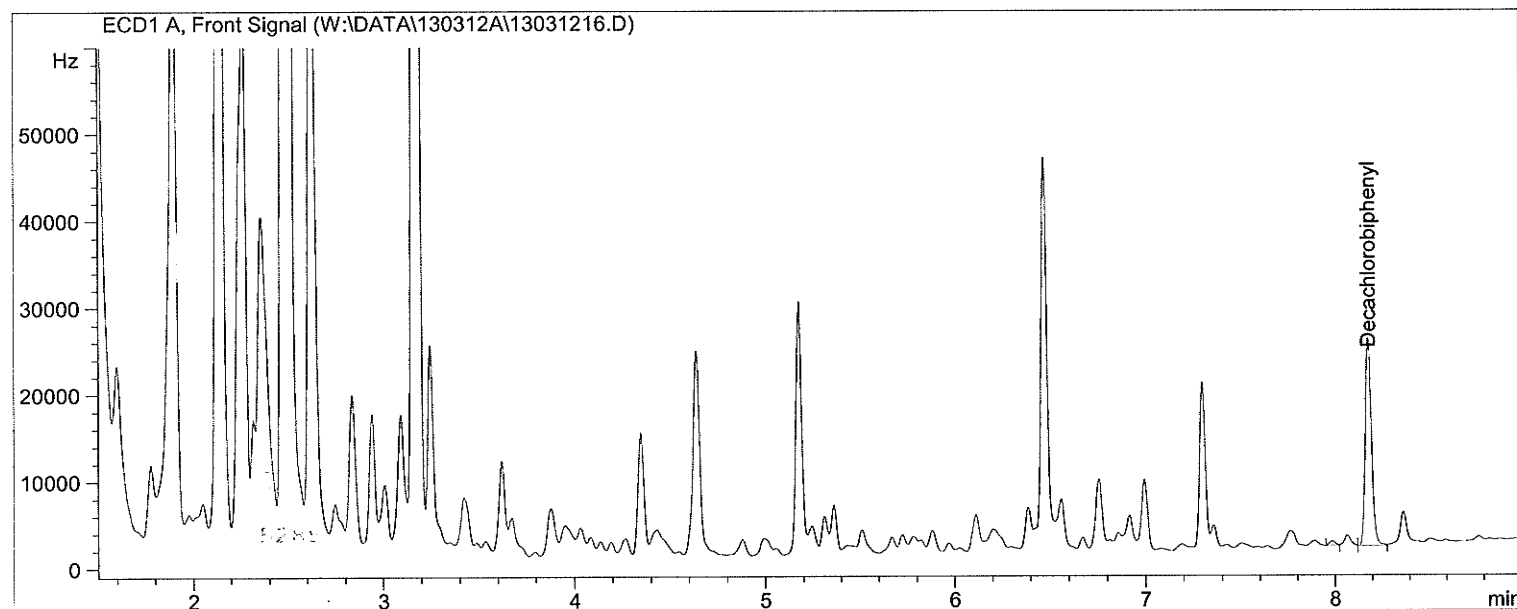
Initial / Date: b.c 03/08/13

External Standard Report

Data File Name : W:\DATA\130312A\13031216.D
 Operator : 421 Vial Number : Vial 15
 Instrument : GC 44 Sequence Line : 17
 Sample Name : 13-03-0512-1A
 Running Method : C:\CHEM32\1\METHODS\8081D-N->Report Style : PEST-F
 Acquired on : 12 Mar 13 02:27 pm Method : EPA 8081A
 Report Created on: 12 Mar 13 03:46 pm Software Version : Rev. B.03.01 [317]
 Comment : Copyright © Agilent
 Analysis Method : C:\CHEM32\1\METHODS\508A130308F.M Technologies

Sig. ECD1A, W:\DATA\130312A\13031216.D

Ret Time	Area	Type	Width	Ref #	ppb	Name
8.181	55285.3VB		0.035		75.184	Decachlorobiphenyl





CALSCIENCE

WORK ORDER NUMBER: 13-03-1569

The difference is service



AIR :: SOIL :: WATER :: MARINE CHEMISTRY

Analytical Report For

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville Utilities Company, Inc.

Attention: Michael Loo
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Approved for release on 03/26/2013 by:
Don Burley
Project Manager

ResultLink ▶

Email your PM ▶



Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



Contents

Client Project Name: Princeville Utilities Company, Inc.

Work Order Number: 13-03-1569

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3	Quality Control Sample Data	6
	3.1 MS/MSD and/or Duplicate	6
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CASE NARRATIVE

Calscience Work Order: 13-03-1569

The analysis for EPA 8082 PCBs was performed on an aliquot that was taken after drying and sieving per the multi-incremental sampling protocol.



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Date Received: 03/22/13
Work Order No: 13-03-1569
Preparation: EPA 3545
Method: EPA 8082
Units: ug/kg

Project: Princeville Utilities Company, Inc.

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PV05	13-03-1569-1-C	03/20/13 08:10	Solid	GC 58	03/25/13	03/26/13 09:56	130325L03

Comment(s): -Results are reported on a dry weight basis.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aroclor-1016	ND	50	1		Aroclor-1248	ND	50	1	
Aroclor-1221	ND	50	1		Aroclor-1254	ND	50	1	
Aroclor-1232	ND	50	1		Aroclor-1260	ND	50	1	
Aroclor-1242	ND	50	1		Aroclor-1262	ND	50	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>	
Decachlorobiphenyl	93	50-130			2,4,5,6-Tetrachloro-m-Xylene	94	50-130		

PV07	13-03-1569-3-C	03/20/13 08:30	Solid	GC 58	03/25/13	03/26/13 10:14	130325L03
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Comment(s): -Results are reported on a dry weight basis.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aroclor-1016	ND	50	1		Aroclor-1248	ND	50	1	
Aroclor-1221	ND	50	1		Aroclor-1254	ND	50	1	
Aroclor-1232	ND	50	1		Aroclor-1260	ND	50	1	
Aroclor-1242	ND	50	1		Aroclor-1262	ND	50	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>	
Decachlorobiphenyl	96	50-130			2,4,5,6-Tetrachloro-m-Xylene	96	50-130		

PV08	13-03-1569-4-C	03/20/13 09:10	Solid	GC 58	03/25/13	03/26/13 10:32	130325L03
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Comment(s): -Results are reported on a dry weight basis.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aroclor-1016	ND	50	1		Aroclor-1248	ND	50	1	
Aroclor-1221	ND	50	1		Aroclor-1254	ND	50	1	
Aroclor-1232	ND	50	1		Aroclor-1260	ND	50	1	
Aroclor-1242	ND	50	1		Aroclor-1262	ND	50	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>	
Decachlorobiphenyl	84	50-130			2,4,5,6-Tetrachloro-m-Xylene	87	50-130		

Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

Date Received: 03/22/13
Work Order No: 13-03-1569
Preparation: EPA 3545
Method: EPA 8082
Units: ug/kg

Project: Princeville Utilities Company, Inc.

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PV09	13-03-1569-5-C	03/20/13 10:00	Solid	GC 58	03/25/13	03/26/13 10:50	130325L03

Comment(s): -Results are reported on a dry weight basis.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aroclor-1016	ND	50	1		Aroclor-1248	ND	50	1	
Aroclor-1221	ND	50	1		Aroclor-1254	ND	50	1	
Aroclor-1232	ND	50	1		Aroclor-1260	ND	50	1	
Aroclor-1242	ND	50	1		Aroclor-1262	ND	50	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>	
Decachlorobiphenyl	70	50-130			2,4,5,6-Tetrachloro-m-Xylene	76	50-130		

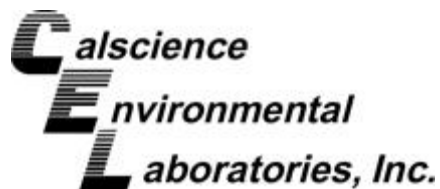
PV10	13-03-1569-6-C	03/20/13 11:00	Solid	GC 58	03/25/13	03/26/13 11:08	130325L03
-------------	-----------------------	-----------------------	--------------	--------------	-----------------	-----------------------	------------------

Comment(s): -Results are reported on a dry weight basis.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aroclor-1016	ND	50	1		Aroclor-1248	ND	50	1	
Aroclor-1221	ND	50	1		Aroclor-1254	ND	50	1	
Aroclor-1232	ND	50	1		Aroclor-1260	ND	50	1	
Aroclor-1242	ND	50	1		Aroclor-1262	ND	50	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>	
Decachlorobiphenyl	83	50-130			2,4,5,6-Tetrachloro-m-Xylene	85	50-130		

Method Blank	099-12-535-1,929	N/A	Solid	GC 58	03/25/13	03/25/13 18:42	130325L03
---------------------	-------------------------	------------	--------------	--------------	-----------------	-----------------------	------------------

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Aroclor-1016	ND	50	1		Aroclor-1248	ND	50	1	
Aroclor-1221	ND	50	1		Aroclor-1254	ND	50	1	
Aroclor-1232	ND	50	1		Aroclor-1260	ND	50	1	
Aroclor-1242	ND	50	1		Aroclor-1262	ND	50	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>	
Decachlorobiphenyl	76	50-130			2,4,5,6-Tetrachloro-m-Xylene	91	50-130		



Quality Control - Spike/Spike Duplicate



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

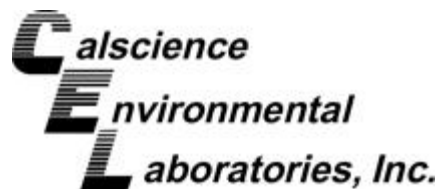
Date Received: 03/22/13
Work Order No: 13-03-1569
Preparation: EPA 3545
Method: EPA 8082

Project Princeville Utilities Company, Inc.

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
PV08	Solid	GC 58	03/25/13	03/26/13	130325S03

Parameter	<u>SAMPLE CONC</u>	<u>SPIKE ADDED</u>	<u>MS CONC</u>	<u>MS %REC</u>	<u>MSD CONC</u>	<u>MSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Aroclor-1016	ND	100.0	100.2	100	93.10	93	50-135	7	0-20	
Aroclor-1260	ND	100.0	103.9	104	96.36	96	50-135	8	0-25	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



Princeville Utilities Company, Inc.
5-3541 Kuhio Highway, Ste. 221
Princeville, HI 96722-5564

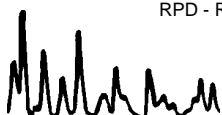
Date Received: N/A
Work Order No: 13-03-1569
Preparation: EPA 3545
Method: EPA 8082

Project: Princeville Utilities Company, Inc.

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-535-1,929	Solid	GC 58	03/25/13	03/26/13	130325L03

Parameter	<u>SPIKE ADDED</u>	<u>LCS CONC</u>	<u>LCS %REC</u>	<u>LCSD CONC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Aroclor-1016	100.0	118.9	119	118.4	118	50-135	0	0-20	
Aroclor-1260	100.0	119.3	119	118.8	119	50-135	0	0-25	

RPD - Relative Percent Difference , CL - Control Limit



Glossary of Terms and Qualifiers

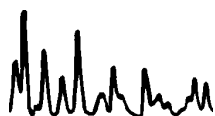


Work Order Number: 13-03-1569

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

For any analysis identified as a "field" test with a holding time (HT) \leq 15 minutes where the sample is received outside of HT, Calscience will adhere to its internal HT of 24 hours. In cases where sample analysis does not meet Calscience's internal HT, results will be appropriately qualified.



☐ SoCal Laboratory
 7440 Lincoln Way
 Garden Grove, CA 92841-1427
 (714) 895-5494

☐ NorCal Service Center
 5063 Commercial Circle, Suite H
 Concord, CA 94520-8577
 (925) 689-9022

Date 3-21-13
Page 1 of 1

LABORATORY CLIENT: <i>Accom</i>	CLIENT PROJECT NAME / NUMBER: <i>Princetonville Utilities</i>	P.O. NO.:
ADDRESS: <i>1001 Bishop St., Suite 1600</i>	PROJECT CONTACT: <i>Frank Cioffi</i>	SAMPLER(S): (PRINT) <i>Mark B. + Nicole N</i>
CITY <i>Honolulu, HI</i>	STATE <i>96813</i>	
ZIP		

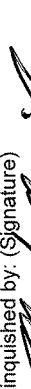

TEL: 808 212-8412	E-MAIL: mark.bigelow ^w @decom.com	REQUESTED ANALYSES
-------------------	--	--------------------

TURNAROUND TIME: ☒ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ STANDARD

GLOBAL ID	GLOBAL ID	LOG CODE
<input type="checkbox"/> COELT EDF		

	SPECIAL INSTRUCTIONS:	M/B
--	-----------------------	-----

LAB USE ONLY	SAMPLE ID	SAMPLING		MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	8082 A	Hold	FSM
		DATE	TIME								
1	PV05	3-20-13	0810	Soil	1	X			X		
2	PV06		0815		1	X			X		
3	PV07		0830		1	X			X		
4	PV08		0910		1	X			X		
5	PV09		1000		1	X			X		
6	PV10		1100		1	X			X		
		↘		↗							

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
 3-21-13			
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
		3/22/13	1030
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

FedEx US Airbill
Express

 FedEx
Tracking
Number

8723 1394 1026

0200 Form 10 No.

FedEx Retrieval Copy

 1 From
Date 3-21-13 Sender's FedEx Account Number 178670212
Sender's Name Mark Bigelow Phone 808 212-8412

 Company Accom
Address 1001 Bishop ST. #1600
City Honolulu State HI ZIP 96813

2 Your Internal Billing Reference Princeville Utilities

3 To Recipient's Name Sample Receiving Phone 714 895-5494

 Company 7440 Lincoln Way
Address Garden Grove
We cannot deliver to P.O. boxes or P.O. ZIP codes

 Address
Use this line for the HOLD location address or for continuation of your shipping address.
City GARDEN GROVE State CA ZIP 92841-1427

 01 ☐ HOLD Weekday
FedEx location address
REQUIRED. NOT available for
FedEx First Overnight.

 31 ☐ HOLD Saturday
FedEx location address
REQUIRED. Available ONLY for
FedEx Priority Overnight and
FedEx 2Day to select locations.

4a Express Package Service

* To most locations.

Packages up to 150 lbs.

 01 ☒ FedEx Priority Overnight Next business morning. ** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

 05 ☐ FedEx Standard Overnight Next business afternoon. Saturday Delivery NOT available.

 06 ☐ FedEx First Overnight Earliest next business morning delivery to select locations.

 03 ☐ FedEx 2Day Second business day. ** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

 20 ☐ FedEx Express Saver Third business day. Saturday Delivery NOT available.

4b Express Freight Service

** To most locations.

Packages over 150 lbs.

 70 ☐ FedEx 1Day Freight Next business day. ** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

FedEx 1Day Freight Booking No.

 80 ☐ FedEx 2Day Freight Second business day. ** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

 83 ☐ FedEx 3Day Freight Third business day. ** Saturday Delivery NOT available.

5 Packaging

* Declared value limit \$500.

 06 ☐ FedEx Envelope*

 02 ☐ FedEx Pak* Includes FedEx Small Pak and FedEx Large Pak.

 03 ☐ FedEx Box

 04 ☐ FedEx Tube

 01 ☒ Other

6 Special Handling and Delivery Signature Options

03 ☐ SATURDAY DELIVERY
☐ No Signature Required Package may be left without obtaining a signature for delivery.

 10 ☒ Direct Signature Someone at recipient's address may sign for delivery. Fee applies.

 34 ☐ Indirect Signature If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. Fee applies.

Does this shipment contain dangerous goods?

One box must be checked.

☒ No 04 ☐ Yes As per attached Shipper's Declaration.

☐ Yes Shipper's Declaration not required.

 06 ☐ Dry Ice Dry Ice, 9 UN 1845 x kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

☐ Cargo Aircraft Only

7 Payment Bill to:

 1 ☒ Sender Acct. No. in Section 1 will be billed. Enter FedEx Acct. No. or Credit Card No. below. Obtain recip. Acct. No.

 2 ☐ Recipient

 3 ☐ Third Party

 4 ☐ Credit Card

 5 ☐ Cash/Check

Total Packages

Total Weight

Credit Card Auth.

*Our liability is limited to \$100 unless you declare a higher value. See the current FedEx Service Guide for details.

606

Rev. Date 2/10 • Part #158281 • ©1994-2010 FedEx • PRINTED IN U.S.A. SRY

WORK ORDER #: 13-03-1569

SAMPLE RECEIPT FORMCooler 1 of 1CLIENT: AECOM/Princeville UtilitiesDATE: 03/22/13**TEMPERATURE:** Thermometer ID: SC2 (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)Temperature 2.9 °C - 0.2°C (CF) = 2.7 °C ☒ Blank ☐ Sample☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.☐ Received at ambient temperature, placed on ice for transport by Courier.Ambient Temperature: ☐ Air ☐ FilterInitial: JP**CUSTODY SEALS INTACT:**☒ Cooler ☐ _____ ☐ No (Not Intact) ☐ Not Present ☐ N/AInitial: JP☐ Sample ☐ _____ ☐ No (Not Intact) ☒ Not PresentInitial: JP**SAMPLE CONDITION:**

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
<input type="checkbox"/> No analysis requested. <input type="checkbox"/> Not relinquished. <input checked="" type="checkbox"/> No date/time relinquished.			
Sampler's name indicated on COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers and sufficient volume for analyses requested.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Analyses received within holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours...	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper preservation noted on COC or sample container.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE:Solid: ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (____) ☐ EnCores® ☐ TerraCores® ☒ WHIRL-PAKWater: ☐ VOA ☐ VOA_h ☐ VOA_{na2} ☐ 125AGB ☐ 125AGB_h ☐ 125AGB_p ☐ 1AGB ☐ 1AGB_{na2} ☐ 1AGB_s☐ 500AGB ☐ 500AGJ ☐ 500AGJ_s ☐ 250AGB ☐ 250CGB ☐ 250CGB_s ☐ 1PB ☐ 1PB_{na} ☐ 500PB☐ 250PB ☐ 250PB_n ☐ 125PB ☐ 125PB_{znna} ☐ 100PJ ☐ 100PJ_{na2} ☐ _____ ☐ _____ ☐ _____Air: ☐ Tedlar® ☐ Canister Other: ☐ _____ Trip Blank Lot#: _____ Labeled/Checked by: JPContainer: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: JPPreservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure znna: ZnAc₂+NaOH f: Filtered Scanned by: JP

Appendix C
Written Certification as per §761.61(a)(E) PUCI



Princeville Utilities Company, Inc.

May 21, 2013

Jeff Scott, Director Waste Management Division
United State Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105

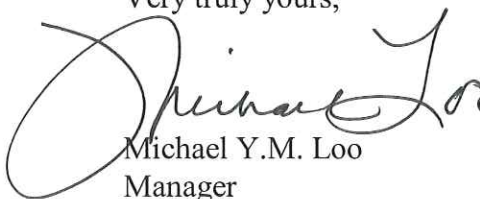
Subject: Written Certification Required Under §761.61(a)(3)(E)
Remedial Action Plan
Princeville Remedial Action Plan
Princeville, Kauai, Hawaii

Dear Mr. Scott:

I certify that all records related to the preparation for and removal of PCB contamination from Princeville Utilities Company Inc's 411 Water Reservoir as more fully described in the Princeville Remedial Action Plan dated May 2013 prepared by AECOM, are on file at 5-3541 Kuhio Highway, Suite 221, Princeville, Hawaii and are available for EPA inspection.

If you have any questions, comments, or concerns you may contact the undersigned at mloo@princeville.com or 808-826-6100 Ex 20 or by fax at 808-827-8019.

Very truly yours,



Michael Y.M. Loo
Manager

cc: Steve Armann, PCB Program Coordinator, Region 9
Joanna Seto, Safe Drinking Water Branch, Hawaii Department of Health
Larry Dill, County Engineer, County of Kauai

Appendix D
Standard Operating Procedure for Sampling Porous Surfaces for
Polychlorinated Biphenyls

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 1

5 Post Office Square, Suite 100

Boston, MA 02109-3912

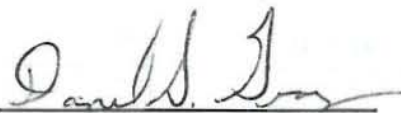


**STANDARD OPERATING PROCEDURE FOR SAMPLING POROUS
SURFACES FOR POLYCHLORINATED BIPHENYLS (PCBs)**

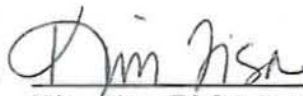
May 2011

**STANDARD OPERATING PROCEDURE
FOR SAMPLING POROUS SURFACES
FOR POLYCHLORINATED BIPHENYLS (PCBs)**

**The Office of Environmental Measurement and Evaluation
EPA New England – Region 1
11 Technology Dr.
North Chelmsford, MA 01863**

Prepared by: 
Dan Granz, Environmental Engineer


5/5/11
Date

Reviewed by: 
Kim Tisa, TSCA PCB Coordinator

5/5/11
Date

Reviewed by: 
Jerry Keefe – EIA Team Leader

05/23/11
Date

Approved by: 
Dan Boudreau, EIA Chemistry Team Leader

5/23/11
Date

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[illegible]

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Attachments:

Example of Custody Seal and Sample Label

Example of Chain of Custody Form

1.0 Scope and Application

- 1.1 This Standard Operating Procedure (SOP) is suitable for collection of a porous matrix sample for analysis of Polychlorinated Biphenyls (PCBs).
- 1.2 This SOP describes sampling techniques for both hard and soft porous surfaces.
 - 1.2.1 Hard surfaces, and most soft surfaces, can be sampled using an impact hammer drill to generate a uniform, finely ground, powder to be extracted and analyzed for PCBs. This procedure is primarily geared at providing enough sample quantity for two analyses. Hard porous surfaces include concrete, brick, asphalt, cement, sandstone, limestone, unglazed ceramics, and other possible PCB suspected material. This procedure may also be used on other softer porous surfaces, such as wood.
 - 1.2.2 Soft surfaces can be sampled using a chisel or sharp knife to generate a representative sample to be extracted and analyzed for PCBs. Soft porous surfaces include wood, wall plasterboard, low density plastics, rubber, caulking, and other PCB suspected material.
- 1.3 This SOP provides for collection of surface samples (0 – 0.5 inches) and delineation of PCB contamination throughout the core of the porous surface. The procedure can be used to sample the porous surface at distinctly different depth zones.

2.0 Method Summary

A one-inch or other sized diameter carbide drill bit is used in a rotary impact hammer drill to generate a fine powder, or other representative sample, suitable for extraction and analysis of PCBs from porous surfaces. This method also allows the use of chisels or knives for the collection of samples from soft porous surfaces for PCB analysis.

3.0 Definitions

- 3.1 Field/Bottle Blank: A sample container of the same lot as the containers used for the environmental samples. This evaluates PCB contamination introduced from the sample container(s) from a common lot.
- 3.2 Equipment/Rinse/Rinsate Blanks: A sample that is collected by pouring hexane over the sample collection equipment after decontamination and before sample collection. The sample is collected in the appropriate sample container identical to the sample containers. This represents background contamination resulting from the field equipment, sampling procedure, sample container, and shipment.

- 3.3 Field Replicates/Duplicates: Two or more samples collected at the same sampling location. Field replicates should be samples collected side by side. Field replicates represent the precision of the whole method, site heterogeneity, field sampling, and the laboratory analysis.
- 3.4 Field Split Samples: Two or more representative subsamples taken from one environmental sample in the field. Prior to splitting, the environmental sample is homogenized to correct for sample heterogeneity that would adversely impact data comparability. Field split samples are usually analyzed by different laboratories (interlaboratory comparison) or by the same laboratory (intralaboratory comparison). Field splits are used to assess sample handling procedures from field to laboratory and laboratory comparability.
- 3.5 Laboratory Quality Samples: Additional samples that will be collected for the laboratory's quality control program: matrix spike, matrix spike duplicate, laboratory duplicates, etc.
- 3.6 Proficiency Testing (PT)/Performance Evaluation (PE) Sample: A sample, the composition of which is unknown to the laboratory or analyst, provided to the analyst or laboratory to assess the capability to produce results within acceptable criteria. This is optional depending on the data quality objectives. If possible, it is recommended that the PE sample be of similar matrix as the porous surface(s) being sampled.
- 3.7 Porous Surface: Any surface that allows PCBs to penetrate or pass into itself including, but not limited to, paint or coating on metal; corroded metal; fibrous glass or glass wool; unglazed ceramics; ceramics with porous glaze; porous building stone such as sandstone, travertine, limestone, or coral rock; low density plastics such as Styrofoam and low density polyethylene; coated (varnished or painted) or uncoated wood; painted or unpainted concrete or cement; plaster; plasterboard; wallboard; rubber; caulking; fiberboard; chipboard; asphalt; or tar paper.
- 3.8 Shipping Container Temperature Blank: A water sample that is transported to the laboratory to measure the temperature of the samples in the cooler.
- 4.0 Health and Safety**
- 4.1 Eye, respiratory, and hearing protection are required at all times during sample drilling. A properly fitted respirator is required for hard porous surface sampling. A respirator is recommended whenever there is a risk of inhalation of either particulate or volatilized PCBs during sampling.
- 4.2 All proper personal protection clothing and equipment must be worn.

4.3 When working with potentially hazardous materials or situations, follow EPA, OSHA, and specific health or safety procedures.

4.4 Care must be exercised when using an electrical drill and sharp cutting objects.

5.0 Interferences and Potential Problems

5.1 This sampling technique produces a finely ground uniform powder, which minimizes the physical matrix effects from variations in the sample consistency (i.e., particle size, uniformity, homogeneity, and surface condition). Matrix spike analysis of a sample is highly recommended to monitor for any matrix related interferences.

5.2 Nitrile gloves are recommended. Latex gloves must not be used due to possible phthalate contamination.

5.3 Interferences may result from using contaminated equipment, solvents, reagents, sample containers, or sampling in a disturbed area. The drill bit must be decontaminated between samples. (see Section 11.0.)

5.4 Cross contamination problems can be eliminated or minimized through the use of dedicated sampling equipment.

6.0 Personnel Qualifications

6.1 All field samplers working at hazardous materials/waste sites are required to take a 40 hour health and safety training course prior to engaging in any field activities. Subsequently, an 8 hour refresher health and safety course is required annually.

6.2 The field sampler should be trained by an experienced sampler before initiating this procedure.

6.3 All personnel shall be responsible for complying with all quality assurance/quality control requirements that pertain to their organizational/technical function.

7.0 Equipment and Supplies

7.1 This list varies with the matrix and if depth profiling is required

- Rotary impact hammer variable speed drill
- 1-inch or other suitable (1/2, 3/4, etc.) diameter carbide tip drill bits
- Steel chisel or sharp cutting knife, and hammer
- Brush and cloths to clean area
- Stainless steel scoopulas

Aluminum foil to collect the powder sample
1 quart Cubitainer with the top cut out to collect the powder sample
Aluminum weighing pans to collect the powder sample
Cleaned glass container (2 oz or 40 mL) with Teflon lined cap
Decontamination supplies: hexane, two small buckets, a scrub brush, detergent, deionized water, hexane squirt bottle, and paper towels
Dedicated vacuum cleaner with a disposable filter or a vacuum pump with a dust filter
Polyethylene tubing and Pasteur pipettes
Sample tags/labels, custody seals, and Chain-of-Custody form

8.0 Sampling Design

8.1 A sufficient number of samples must be collected to meet the data quality objectives of the project. If the source of the PCB contamination is regulated under the federal TSCA PCB Regulations at 40 CFR Part 761, the sampler should insure that the sampling design is sufficient to meet any investigation or verification sampling requirements. At a minimum, the following is recommended:

8.1.1 Suspected stained area (s) should be sampled.

8.1.2 At each separate location, collect at least 3 samples of each type of porous surface, regardless of the amount of each type of porous surface present.

8.1.3 In areas where PCB equipment was used or where PCBs were stored, samples should be collected at a frequency of 1 sample/100 square feet (ft²).

9.0 Sample Collection

9.1 Hard Porous Surfaces

9.1.1 Lock a 1-inch or another size diameter carbide drill bit into the impact hammer drill and plug the drill into an appropriate power source. For easy identification, sample locations may be pre-marked using a marker or paint. (Note: the actual drilling point must not be marked.) Remove any debris with a clean brush or cloth prior to drilling. All sampling decisions of this nature should be noted in the sampling logbook.

9.1.2 Use a Cubitainer with the top cut off or aluminum foil to contain the powdered sample. Begin drilling in the designated location. Apply steady even pressure and let the drill do the work. Applying too much pressure will generate excessive heat and dull the drill bit prematurely. The drill will provide a finely ground powder that can be easily collected.

- 9.1.3 Samples should be collected at ½-inch depth intervals. Thus, the initial surface sample should be collected from 0 – 0.5 inches. A ½-inch deep hole generates about 10 grams (20 mL) of powder. Multiple holes located closely adjacent to each other, may be needed to generate sufficient sample volumes for a PCB determination. It is strongly recommended that the analytical laboratory be consulted on the minimum sample size needed for PCB extraction and analysis.
- 9.1.4 Wall and Ceiling Sampling: A team of two samplers will be required for wall and ceiling sampling. The second person will hold a clean catch surface (e.g. an aluminum pan) below the drill to collect the falling powder. Alternatively, use the chuck-end of the drill bit and punch a hole through the center of the collection pan. The drill bit is then mounted through the pan and into the drill. For ceilings, the drill may be held at an angle to collect the powder. Thus the driller can be drilling at an angle while the assistant steadies the pan to catch the falling powder. As a precaution, it may be advantageous to tape a piece of plastic around the drill, just below the chuck, to avoid dust contaminating the body of the drill and entering the drill's cooling vents. Caution must be taken to prevent obstruction of the drill's cooling vents.

9.2 Soft Porous Surfaces

- 9.2.1 The procedure for the hard porous surface may be used for certain soft porous surfaces, such as wood.
- 9.2.2 Samples should be collected at no more than ½-inch depth intervals using a metal chisel or sharp cutting knife. Thus, the initial surface sample should be collected from 0 – 0.5 inches. It is important to collect at least 10 grams for analysis.
- 9.2.3 For soft porous surfaces, such as caulking and rubber, a representative sample can be collected using a metal chisel or sharp cutting knife.

9.3 Multiple Depth Sampling

- 9.3.1 Multiple Depth Sampling may not be applicable to certain porous surfaces, such as caulking.
- 9.3.2 Collect the surface sample as outlined in Section 9.1 or 9.2.
- 9.3.3 Use the vacuum pump or cleaner to clean out the hole.
- 9.3.4 To collect multiple depths there are two options.

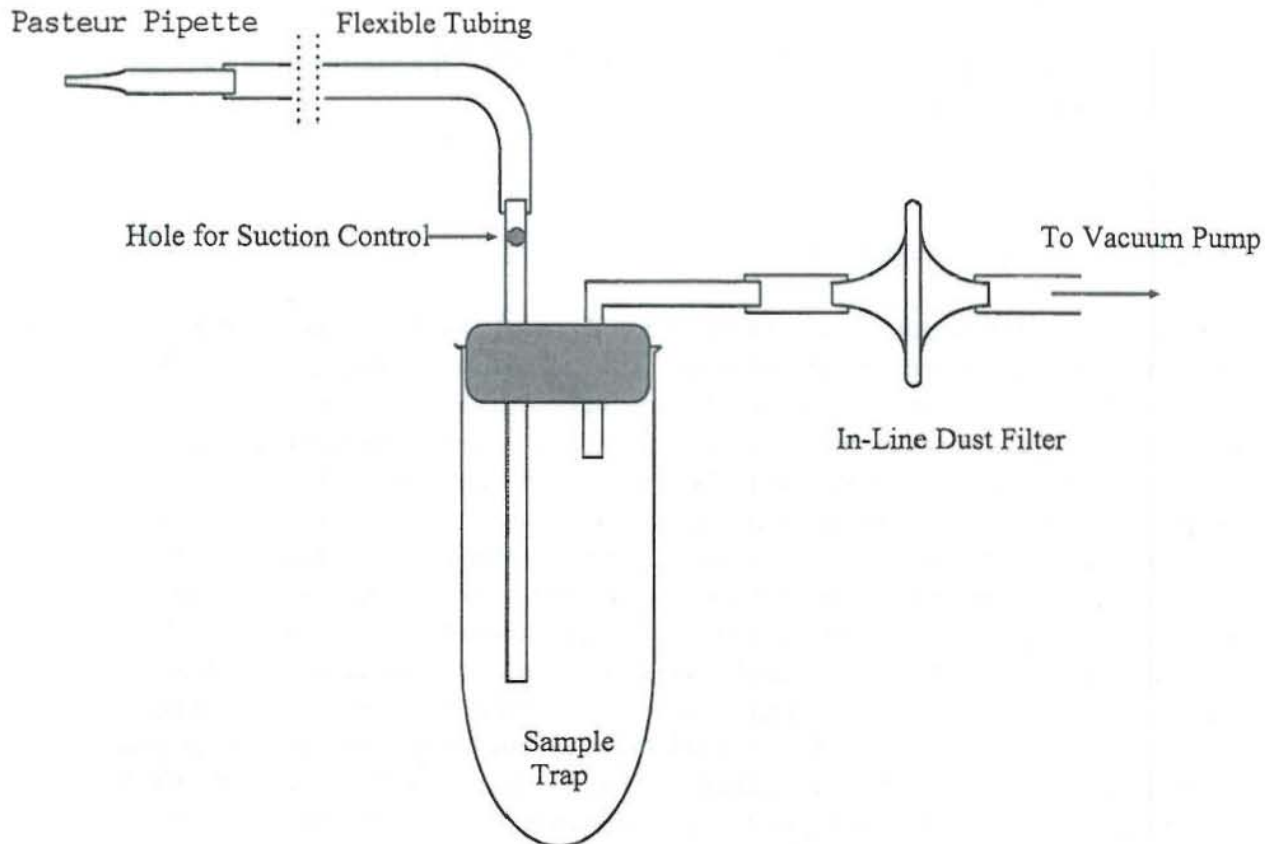
9.3.4.1 Option one: drill sequentially ½-inch increments with the 1 inch drill.

9.3.4.2 Option two: drill with the 1 inch bit and either make the hole larger or use a smaller bit to take the next ½- inch sample.

9.3.5 A stainless steel scoopula will make it easier to collect the sample from the bottom of the hole.

9.4 Vacuum Trap Design and Clean-out

The trap presented in Figure 1 is a convenient and thorough way for collecting and removing concrete powder from drilled holes. The trap system is designed to allow for control of the suction from the vacuum pump and easy trap clean-out between samples. Note, by placing a hole in the inlet tube (see Figure 1), a finger on the hand holding the trap can be used to control the suction at the sampling tip. Thus, when this hole is left completely open, there will be no suction, and the sampler can have complete control over where and what to sample. To change-out between samples the following steps should be taken: 1) the Pasteur pipette and piece of polyethylene tubing at the sample inlet should be replaced with new materials, 2) the portion of the rubber stopper and glass tubing that was in the trap should be wiped down with a clean damp paper towel (wetted with deionized water) and then dried with a fresh paper towel, 3) a clean pipe cleaner should be drawn through the glass inlet tube to remove any concrete dust present, and 4) the glass tube or flask used to collect the sample should be swapped out with a clean decontaminated sample trap. Having several clean tubes or flasks on hand will facilitate change-out between samples.

Figure 1

Note: the holes should be vacuumed thoroughly to minimize any cross-contamination between sample depths and the bits should be decontaminated between samples. (See Section 11.0)

10.0 Sample Handling, Preservation, and Storage

- 10.1 Samples must be collected in glass containers for PCB analyses. In general, a 2-ounce sample container with a Teflon-lined cap (wide-mouth jars are preferred) will hold sufficient mass for most analyses. A 2-ounce jar can hold roughly 90 grams of sample.
- 10.2 Samples are to be shipped refrigerated and maintained at $\leq 6^{\circ}\text{C}$ until the time of extraction and analysis.
- 10.3 The suggested holding time for PCB samples is 14 days to extraction.

11.0 Decontamination

- 11.1 Assemble two decontamination buckets. The first bucket contains a detergent and potable water solution, and the second bucket is for rinsate. Place all used drill bits, hose for the vacuum cleaner, and utensils in the detergent and water bucket. Scrub each piece thoroughly using the scrub brush. Note, the powder does cling to the metal surfaces, so care should be taken during this step, especially with the twists and curves of the drill bits. Next, rinse each piece with water and hexane. Place the rinsed pieces on clean paper towels and individually dry and inspect each piece. Note: all pieces should be dry prior to reuse.
- 11.2 Lightly contaminated drill bits and utensils may be wiped with a hexane soaked cloth and hexane rinsed for decontamination.

12.0 Data and Record Management

- 12.1 All data and information collection should follow a Field Data Management SOP or Quality Assurance Project Plan (QAPP).
- 12.2 Follow the chain of custody procedures to release the samples to the laboratory. A copy is kept with the sampling records.
- 12.3 The field data is stored for at least 3 years.

13.0 Quality Control and Quality Assurance

- 13.1 Representative samples are required. The sampler will evaluate the site specific conditions to assure the sample will be representative.
- 13.2 All sampling equipment must be decontaminated prior to use and between each discrete sample.
- 13.3 All field Quality Control (QC) sample requirements in a Sample and Analysis Plan (SAP) or QAPP must be followed. The SAP or QAPP may involve field blanks, equipment blanks, field duplicates and/or the collection of extra samples for the laboratory's quality control program.
- 13.4 Field duplicates should be collected at a minimum frequency of 1 per 20 samples or 1 per non-related porous matrix, whichever is greater.

14.0 Waste Management and Pollution Prevention


- 14.1 During field sampling events there may be PCB and/or hazardous waste produced from the sample collection. The waste must be handled and disposed of in accordance with federal, state, and local regulations. The dust filter, and tubing if a vacuum pump is used, is disposed after each site investigation. This waste will be treated as PCB waste if the samples are positive for PCBs. It may be possible to manage or dispose of the waste produced at the site where the work was performed. If the site does not meet regulatory requirements for these types of activities, the waste must be transported to a facility permitted to manage and/or dispose of the waste.

15.0 References

1. Guidance for the Preparation of Standard Operating Procedures for Quality-Related Operations, QA/G-6, EPA/600/R-96/027, November 1995.
2. 40 CFR Part 761 – Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution In Commerce, and Use Prohibitions
3. Sample Container and Holding Time: RCRA SW 846, Chapter 4, Table 4.1, Revision 4, February, 2007.

Example of Sample Label and Custody Seal

U.S. ENVIRONMENTAL PROTECTION AGENCY – REGION I BOSTON, MASS.	
LABEL	NAME OF UNIT AND ADDRESS ENVIRONMENTAL SERVICES DIVISION 60 WESTVIEW STREET LEXINGTON, MASSACHUSETTS 02173
	DATE: YR/MO/DAY
SAMPLE	TIME
	STATION NO.
	SOURCE OF SAMPLE
	SAMPLE NO.
	SUB NO.
	PRESERVATIVE
SAMPLING CREW (FIRST, INITIAL, LAST NAME)	
AMOUNT	
ANALYSIS	

 UNITED STATES ENVIRONMENTAL PROTECTION AGENCY OFFICIAL SAMPLE SEAL	SAMPLE NO.	DATE
	SIGNATURE	
	PRINT NAME AND TITLE (Inspector, Analyst or Technician)	
SEAL BROKEN BY		DATE

EPA FORM 7500-2 (R7-75)



REGION 1

[illegible]

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

1-16940

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